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EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS OF PERFORMANCE AND PRETREATMENT

Proposed Rules

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 415]

EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS OF PERFORMANCE AND PRETREATMENT FOR INORGANIC CHEMICALS MANUFACTURING POINT SOURCE CATEGORY

Notice of Proposed Rulemaking

Notice is hereby given that effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources set forth in tentative form below are proposed by the Environmental Protection Agency (EPA) for the aluminum chloride production subcategory (Subpart A), the aluminum sulfate production subcategory (Subpart B), the calcium carbide production subcategory (Subpart C), the calcium chloride production subcategory (Subpart D), the calcium oxide and hydroxide production subcategory (Subpart E), the chlorine and sodium or potassium hydroxide production subcategory (Subpart F), the hydrochloric acid production subcategory (Subpart G), the hydrofluoric acid production subcategory (Subpart H), the hydrogen peroxide production subcategory (Subpart I), the nitric acid production subcategory (Subpart J), the potassium metal production subcategory (Subpart K), the potassium dichromate production subcategory (Subpart L), the potassium sulfate production subcategory (Subpart M), the sodium bicarbonate production subcategory (Subpart N), the sodium carbonate production subcategory (Subpart O), the sodium chloride production subcategory (Subpart P), the sodium dichromate and sodium sulfate production subcategory (Subpart Q), the sodium metal production subcategory (Subpart R), the sodium silicate production subcategory (Subpart S), the sodium sulfite production subcategory (Subpart T), the sulfuric acid production subcategory (subpart U), and titanium dioxide production subcategory (Subpart V), of the inorganic chemicals manufacturing category of point sources pursuant to sections 301, 304(b) and (c), 306(b) and 307(c) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b) and 1317(c); 86 Stat. 816 et seq.; Pub. L. 92–500) (the "Act").

(a) *Legal authority.* (1) *Existing point sources.* Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to Section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) of the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods, and other alternatives. The regulations proposed herein set forth effluent limitations guidelines, pursuant to section 304(b) of the Act, for the aluminum chloride production subcategory (Subpart A), the aluminum sulfate production subcategory (Subpart B), the calcium carbide production subcategory (Subpart C), the calcium chloride production subcategory (Subpart D), the calcium oxide and hydroxide production subcategory (Subpart E), the chlorine and sodium or potassium hydroxide production subcategory (Subpart F), the hydrochloric acid production subcategory (Subpart G), the hydrofluoric acid production subcategory (Subpart H), the hydrogen peroxide production subcategory (Subpart I), the nitric acid production subcategory (Subpart J), the potassium metal production subcategory (Subpart K), the potassium dichromate production subcategory (Subpart L), the potassium sulfate production subcategory (Subpart M), the sodium bicarbonate production subcategory (Subpart N), the sodium carbonate production subcategory (Subpart O), the sodium chloride production subcategory (Subpart P), the sodium dichromate and sodium sulfate production subcategory (Subpart Q), the sodium metal production subcategory (Subpart R), the sodium silicate production subcategory (Subpart S), the sodium sulfite production subcategory (Subpart T), the sulfuric acid production subcategory (Subpart U), and titanium dioxide production subcategory (Subpart V), of the inorganic chemicals manufacturing category.

(2) *New sources.* Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achieveable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306(b)(1)(B) of the Act requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973, (38 FR 1624) a list of 27 source categories, including the inorganic chemicals manufacturing category. The regulations proposed herein set forth the standards of performance applicable to new sources for the aluminum chloride production subcategory (Subpart A), the aluminum sulfate production subcategory (Subpart B), the calcium carbide production subcategory (Subpart C), the calcium chloride production subcategory (Subpart D), the calcium oxide and hydroxide production subcategory (Subpart E), the chlorine and sodium or potassium hydroxide production subcategory (Subpart F), the hydrochloric acid production subcategory (Subpart G), the hydrofluoric acid production subcategory (Subpart H), the hydrogen peroxide production subcategory (Subpart I), the nitric acid production subcategory (Subpart J), the potassium metal production subcategory (Subpart K), the potassium dichromate production subcategory (Subpart L), the potassium sulfate production subcategory (Subpart M), the sodium bicarbonate production subcategory (Subpart N), the sodium carbonate production subcategory (Subpart O), the sodium chloride production subcategory (Subpart P), the sodium dichromate and sodium sulfate production subcategory (Subpart Q), the sodium metal production subcategory (Subpart R), the sodium silicate production subcategory (Subpart S), the sodium sulfite production subcategory (Subpart T), the sulfuric acid production subcategory (Subpart U), and titanium dioxide production subcategory (Subpart V), of the inorganic chemicals manufacturing category.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. Sections 415.15, 415.25, and 415.35, 415.45, 415.55, 415.65, 415.75, 415.85, 415.95, 415.105, 415.115, 415.125, 415.135, 415.145, 415.155, 415.165, 415.175, 415.185, 415.195, 415.205, 415.215, 415.225, proposed below provide pretreatment standards for new sources within the aluminum chloride production subcategory (Subpart A), the aluminum sulfate production subcategory (Subpart B), the calcium carbide production subcategory (Subpart C), the calcium chloride production subcategory (Subpart D), the calcium oxide and hydroxide production subcategory (Subpart E), the chlorine and sodium or potassium hydroxide production subcategory (Subpart F), the hydrochloric acid production subcategory (Subpart G), the hydrofluoric acid production subcategory (Subpart H), the hydrogen peroxide production subcategory (Subpart I), the nitric acid production subcategory (Subpart J), the potassium metal production subcategory (Subpart K), the potassium dichromate production subcategory (Subpart L), the potassium sulfate production subcategory (Subpart M), the sodium bicarbonate production subcategory (Subpart N), the sodium carbonate production subcategory (Subpart O), the sodium chloride production subcategory (Subpart P), the sodium dichromate and so-

dium sulfate production subcategory (Subpart Q), the sodium metal production subcategory (Subpart R), the sodium silicate production subcategory (Subpart S), the sodium sulfite production subcategory (Subpart T), the sulfuric acid production subcategory (Subpart U), and titanium dioxide production subcategory (Subpart V), of the inorganic chemicals manufacturing category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under Section 306 of the Act. The Development Document referred to below provides pursuant to Section 304(c) of the Act, information on such processes, procedures of operating methods.

(b) Summary and basis of proposed effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources. (1) *General methodology.* The effluent limitations guidelines and standards of performance proposed herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations and standards are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate limitations and standards for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of (1) the source, flow and volume of water used in the process employed and the sources of waste and waste waters in the operation and (2) the constituents of all waste water. The constituents of the waste waters which should be subject to effluent limitations guidelines and standards of performance were identified.

The control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which are existent or capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, limitations and reliability of each treatment and control technology were also identified. In addition, the non-water quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise and radiation, were identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available," "the best available technology economically achievable" and the "best available demonstrated control technology, processes, operating methods, or other alternatives." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standards proposed for existing sources under Part 128 of 40 CFR. The basis for such standards are set forth in the FEDERAL REGISTER of July 19, 1973, 38 FR 19236. The provisions of Part 128 are equally applicable to sources which would constitute "new sources," under section 306 if they were to discharge pollutants directly to navigable waters, except for § 128.133. That section provides a pretreatment standard for "incompatible pollutants" which requires application of the "best practicable control technology currently available," subject to an adjustment for amounts of pollutants removed by the publicly owned treatment works. Since the pretreatment standards proposed herein apply to new sources, §§ 415.15, 415.25, 415.35, 415.45, 415.55, 415.65, 415.75, 415.85, 415.95, 415.105, 415.115, 415.125, 415.135, 415.145, 415.155, 415.165, 415.175, 415.185, 415.195, 415.205, 415.215, and 415.225 below amend § 128.133 to require application of the standard of performance for new sources rather than the "best practicable" standard applicable to existing sources under sections 301 and 304(b) of the Act.

(2) Summary of conclusions with respect to the inorganic chemicals manufacturing category of point sources.

(i) *Categorization.* For the purpose of establishing effluent limitations guidelines and standards, the inorganic chemicals manufacturing category was divided into twenty-two discrete subcategories consistent with the specific chemicals produced. Various other means to group the twenty-two chemicals into subcategories were investigated. Factors such as raw waste loads, water requirements, and manufacturing processes do not establish a sound basis for subcategorization because the raw materials used and production processes employed are specific for each chemical. Although certain waste water constituents may be reduced to similar concentrations for selected chemical groupings, the quantities of pollutants discharged based on production volume are different for each chemical because of specific water requirements.

Thus, for the purpose of these regulations, a subcategory was established for each chemical product. This subcategorization scheme simplifies the application of effluent limitations guidelines because inorganic chemical plants vary significantly in terms of product mix. This scheme also reflects differences in the treatability of waste streams due to the manufacturing process variables unique to each chemical.

(ii) Process descriptions, water use and waste water characterization for each chemical subcategory

(1) Aluminum chloride. Anhydrous aluminum chloride is manufactured by the reaction of gaseous chlorine with molten aluminum metal. Chlorine is introduced below the surface of the molten aluminum. The aluminum chloride sublimes and is collected by condensation.

No water is used in the process except in cases where a wet scrubber is used to eliminate the discharge of unreacted chlorine gas to the atmosphere. The wet scrubbing solution may be sold as a by-product or recycled after the precipitation of aluminum salts.

(2) Aluminum sulfate. Aluminum sulfate is produced by the reaction of bauxite ore with concentrated sulfuric acid. Ground ore and acid are reacted in a digester, yielding aluminum sulfate in solution plus muds and insoluble waste materials. These waste products are removed during sedimentation and filtration. The filtered product liquor is either shipped as liquid aluminum sulfate or evaporated to recover a solid product. Waste muds may be ponded to settle the solids and the clear water may be recycled.

(3) Calcium carbide. Calcium carbide is prepared by the reaction of calcium oxide with carbon in a high temperature furnace. The product is then cooled, crushed, screened, packaged, and shipped. The only wastes from this process are airborne dusts from the furnace coke dryer, from screening and from the packing station. All collected dusts may be returned to the furnace.

(4) Calcium chloride. The limitations presented herein apply only to the brine extraction process of manufacturing calcium chloride. Salt is solution-mined and the resulting brines concentrated to remove sodium chloride by precipitation and then purified by the addition of other materials to precipitate sodium, potassium, and magnesium ions. The process wastes are weak brine solutions from the blowdown of the various brine purification steps.

(5) Calcium oxide and hydroxide. Calcium oxide and hydroxide are produced by calcining various types of limestone in continuous vertical or rotating kilns. This is a dry process, and the only waterborne wastes result from wet scrubbing of the gaseous kiln effluent to remove particulates.

After calcination, the calcium oxide and hydroxide are cooled and packaged as a lump product or crushed and screened to yield a pulverized product.

(6) Chlorine and sodium or potassium hydroxide. The major chlorine production results from the electrolysis of sodium or potassium brines. Sodium hydroxide or potassium hydroxide are produced as byproducts. Two types of electrolysis cells may be used.

In the mercury cell process, the raw material is dissolved and purified by addition of barium carbonate, soda ash, and lime to remove magnesium, calcium, and sulfate ion prior to electrolysis. The insolubles formed are filtered from the brine, which is fed into a mercury cell, where chlorine is liberated at one electrode and a sodium-mercury amalgam is formed at the other.

The chlorine formed is cooled, dried in a sulfuric acid stream, purified to remove chlorinated organics, compressed and sold. The mercury-sodium amalgam formed is treated with water to decompose the amalgam. Sodium hydroxide and hydrogen are formed in the reaction. The mercury liberated is returned to the electrolysis cells. The hydrogen is cooled, scrubbed to remove traces of mercury, compressed and sold.

The sodium hydroxide formed during the decomposition of the amalgam is filtered, concentrated, and sold. Waste brines emerging from the electrolysis cells are concentrated and recycled.

In the diaphragm cell process, chloride brines are first purified and then electrolyzed in a diaphragm cell. Chlorine, formed at one electrode, is collected, cooled, dried with sulfuric acid, purified, compressed, and liquefied. At the other electrode, sodium hydroxide is formed and hydrogen is liberated. The hydrogen is cooled, purified, and compressed. The sodium hydroxide formed, along with unreacted brine, is evaporated to 50 percent concentration. During the partial evaporation, most of the unreacted sodium chloride precipitates and is removed by filtration for recycle to the process. The sodium hydroxide solutions are further evaporated to yield solid products.

(7) Hydrochloric acid. Hydrochloric acid may be manufactured by two major processes. The process considered herein is direct reaction of chlorine with hydrogen. The other major source of production is as a byproduct of organic chlorination reactions.

In production by direct reaction, hydrogen and chlorine gas are reacted in a vertical burner. The product, hydrogen chloride, is cooled and then absorbed in water. No waterborne wastes are generated during normal operation. The start-up wastes may be treated and reused.

(8) Hydrofluoric acid. Hydrofluoric acid is manufactured by reacting the mineral fluorspar (CaF_2) with concentrated sulfuric acid in a furnace. The hydrofluoric acid leaves the furnace as a gas, is cooled and absorbed in water prior to purification. In the purification system, the crude acid is redistilled and either absorbed in water or compressed for sale as anhydrous hydrofluoric acid.

(9) Hydrogen peroxide. Hydrogen peroxide is manufactured by three different processes: (1) an electrolytic process; (2) oxidation of alkyl hydroanthraquinones; and (3) as a byproduct in the manufacture of acetone from isopropyl alcohol. The limitations presented herein apply only to the first two processes.

In the electrolytic process, a solution of ammonium (or other) bisulfate is electrolyzed, yielding ammonium persulfate at the anode and hydrogen gas at the cathode. The persulfate is then reacted with water to yield hydrogen peroxide and the original bisulfate. In the oxidation process, alkylanthraquinone is reduced by hydrogen over a supported metal catalyst (typically palladium on alumina), yielding the corresponding alkylhydroanthraquinone. This, in turn, is oxidized by oxygen in a forced gas stream to produce the original alkylanthraquinone plus hydrogen peroxide. The hydrogen peroxide is extracted with water and the alkylanthraquinone is recycled.

(10) Nitric acid. Nitric acid is produced by catalytic oxidation of ammonia to nitrogen dioxide which is reacted with water vapor under pressure to obtain the acid. In the process, compressed, purified, and preheated air and anhydrous ammonia are mixed and passed over a platinum-rhodium wire gauge catalyst. The resultant mixture of nitric oxide and excess air is introduced into a stainless steel absorption tower where the nitric oxide is oxidized. The resulting nitrogen dioxide is then reacted with water. The only process wastes from a well-designed plant are weak nitric acid solutions which may be recycled.

(11) Potassium metal. Potassium is produced by the reaction of potassium chloride with sodium vapors. No water is used in this manufacturing process. The potassium chloride is melted in a gas-fired melt pot and is fed to an exchange column. The molten potassium chloride is contacted by ascending sodium vapors, yielding sodium chloride and elemental potassium. The sodium chloride is normally recovered and sold.

(12) Potassium dichromate. Most potassium dichromate manufactured in the U.S. is made by reacting a sodium dicromate dihydrate solution with potassium chloride. The potassium dichromate is crystallized from solution resulting in a relative pure product which requires only removal of water prior to sizing and packaging. The process water may be recycled back to the initial reaction tank.

(13) Potassium sulfate. Potassium sulfate is prepared by treating dissolved langbenite ore ($K_2SC_4 \cdot 2MgSC_4$), a naturally occurring potassium magnesium sulfate mineral, with potassium chloride. The ore is crushed and dissolved in water to which potassium chloride is added. Partial evaporation of the solution results in selective precipitation of potassium sulfate. This is recovered by centrifugation or filtration, dried and sold. The resulting brine liquor may be held in evaporation ponds, reused as process water, or evaporated to dryness to recover magnesium chloride.

(14) Sodium bicarbonate. Sodium bicarbonate is made by reacting sodium carbonate with water and carbon dioxide under pressure. The bicarbonate precipitates from solution and is centrifuged or filtered, washed, dried, and packaged. Treated process waste water may be recycled after concentration with respect to sodium carbonate.

(15) Sodium carbonate. Sodium carbonate (soda ash) is produced by the Solvay process or by the mining of trona (sodium sesquicarbonate) in California and Wyoming.

The Solvay process involves a reaction of ammonia and carbon dioxide in a brine solution to yield sodium bicarbonate. This is converted to the carbonate by heating. Ammonia may be recovered by adding slaked lime to the used liquor. Large quantities of dissolved and suspended solids are generated by this process. A typical effluent after sedimentation and neutralization contains over 100,000 mg/l of dissolved materials (mainly NaCl and $CaCl_2$).

The mining of trona currently accounts for approximately forty percent of sodium carbonate production.

(16) Sodium chloride. Sodium chloride may be produced by solution brine mining, by solar evaporation of sea water, or by conventional mining of rock salt. The regulations presented herein apply to the first two processes. Solar evaporation to produce sodium chloride consists of holding sea water in large ponds where the water is allowed to evaporate. After saturation is reached, the brine is fed to a crystallizer where sodium chloride is precipitated. The brine solution may be further treated to recover potassium and magnesium salts. Solution-mining of brines involves pumping water into an underground salt deposit and recovering the brine solution for treatment. The specific treatment is variable depending on the nature of the impurities present. Typically, the brine may be first aerated to remove hydrogen sulfide and, in many cases, small amounts of chlorine are added to complete sulfide removal and oxidize all iron salts present to the ferric state. The brine is then pumped to settling tanks where it is treated with calcium carbonate and sodium hydroxide to remove most of the calcium, magnesium and iron present as insoluble salts. After clarification to remove these insolubles, the brine is then sent to multiple effect evaporators. As water is removed, salt crystals form and are removed as a slurry. After screening to remove lumps, the slurry is then washed with fresh brine. The washed slurry is filtered, the mother liquor is returned to the evaporators and the salt crystals from the filter are dried, screened, and packaged.

Waste water results from the multiple evaporators and dryers and from the brine purification processes.

(17) Sodium dichromate and sodium sulfate. Sodium dichromate and sodium sulfate are prepared by calcining a mix-

ture of chrome ore, sodium carbonate, and lime, followed by leaching the soluble chromates with water. Calcium salts are precipitated by pH adjustment and then removed along with iron oxide. The leachate containing the soluble chromate is then acidified with sulfuric acid, forming sodium dichromate and sodium sulfate. The dichromate solution is partially evaporated and fed to a crystallizer where sodium dichromate crystals are formed. The crystals are centrifuged to remove excess water, then dried and packaged.

The sulfate is precipitated following the partial evaporation process. The leachate is filtered and dried. The insoluble residue remaining from the leaching operation may be recycled to leach out additional material.

(18) Sodium metal. The process used to manufacture sodium metal, commonly called the Downs cell process, consists of the electrolysis of fused sodium chloride at about 600° C. The salt is mixed with alkali fluorides and calcium chloride to sufficiently lower the melting point, and the charge is then fused in a Downs cell. Molten sodium formed at the cathode is transported to a collection vessel, from which the metal is withdrawn from the bottom, filtered, and packaged in the form of bricks of various sizes.

It is essentially a dry process. However, water-borne wastes are generated during cleanout and washdown of cells when the electrolyte is replenished, from scrubbing chlorine tail gases and also from drying the chlorine with sulfuric acid.

(19) Sodium silicate. The production of sodium silicate generally involves reacting soda ash or anhydrous sodium hydroxide with silica. The product is then dissolved in water under pressure to prepare sodium silicate solutions. The water-borne wastes include unreacted silica, sodium hydroxide and sodium silicate. The pollutants are the result of tank washdowns, product shock cooling with water and wet scrubbers. These wastes may be ponded to settle the solids and the clear liquid may be partially recycled and partially pond evaporated. The waste solution may be further reacted with sodium hydroxide to manufacture metasilicates which may be isolated by evaporation and sold.

(20) Sodium sulfite. Sodium sulfite is manufactured by reacting sulfur dioxide with soda ash. The sulfur dioxide gas is fed into a solution of sodium carbonate until the product is acidic. The solute consists mainly of sodium bisulfate which is converted into sodium sulfite by the further addition of soda ash. The solution is boiled to evolve carbon dioxide. The crude sulfite is filtered to remove insolubles, crystallized and dried.

The wastes consist of sulfides from the purification steps, and sulfites and sulfates which result from periodic washdowns. The sulfite may be oxidized to sulfate by aeration and suspended solids removed by filtration.

(21) Sulfuric acid. Sulfuric acid is manufactured primarily by the contact process which involves the burning of sulfur to sulfur dioxide. The sulfur dioxide is catalytically oxidized to sulfur trioxide which is reacted with water to yield sulfuric acid. Within the contact process there are three basic types of plants: (i) Double absorption plants use paired sulfur trioxide absorption towers and catalyst beds in series to maximize conversion of sulfur dioxide so that tail gas scrubbers are not required; (ii) single absorption plants use single towers and catalyst beds and tail gases frequently have to be scrubbed to remove sulfur oxides; and (iii) spent acid plants use spent sulfuric acid in place of, or in addition to, sulfur as a raw material.

The regulations presented herein apply only to the first two plant types. In the double absorption contact process, sulfur is burned to yield sulfur dioxide which is then passed through a catalytic converter with air to produce sulfur trioxide. The sulfur trioxide is then absorbed in 95–97 percent sulfuric acid. The gases emerging from the absorber are then fed to a second converter to oxidize the remaining sulfur dioxide to sulfur trioxide, which is then absorbed in a second absorption tower. The tail gases are vented to the atmosphere. They are sufficiently depleted of sulfur oxides so that gas scrubbers are not required. Prevention of leaks and spills can eliminate the discharge of process waste water pollutants.

The single absorption process differs from that previously described only in the arrangement of the converters and absorbers. The rest of the process is the same. For the single absorption process, the sulfur dioxide is passed through one or more converters and then into one or more absorbers prior to venting to the atmosphere. These tail gases usually need to be scrubbed and the waste water treated.

(22) Titanium dioxide. Titanium dioxide may be manufactured using either the chloride or sulfate process. In the sulfate process, ground ilmenite ore (FeO TiO_2) is digested with concentrated sulfuric acid at high temperatures. The acid used is normally about 150 percent of the weight of the ore. In some cases, small amounts of antimony trioxide are also added. The resulting sulfates of titanium and iron are then leached from the reaction mass with water and any ferric salts present are reduced to ferrous salts by treatment with iron scrap to prevent coloration of the titanium dioxide.

After these operations, the solutions are clarified, cooled and sent to a vacuum crystallizer. There, ferrous sulfate crystallizes out and is separated from the mother liquor by centrifugation. This material is either sold or disposed of as a waste.

The mother liquor is clarified by filtration after addition of filter aids and further concentrated by vacuum evaporation. Seed crystals or other nucleating agents are added and the concentrated liquor is treated with steam to hydrolyze the titanium sulfate present. This precipitates as acidic hydrated titanium. The precipitate is collected by filtration, washed several times and calcined at 900–950°C to yield titanium dioxide. This calcined product is ground, and further processed to yield a purer product.

In the manufacture of titanium dioxide by the chloride process, ores containing titanium dioxide, iron, aluminum, vanadium, plus other minor trace impurities, are dried to remove moisture, then fed up to a high temperature fluidized bed chlorinator. Coke needed to promote chlorination is also dried and fed to the reactor.

The gaseous reaction products contain titanium tetrachloride, ferrous and ferric chlorides, carbon monoxide and dioxide, hydrogen chloride (from the hydrogen in the coke and ore, etc.), entrained coke and ore, plus all other chlorinated impurities in the ore. These pass to a long cooling train which cools the product stream so that all of the iron chlorides and most of the remaining metal chlorides condense. Solids are separated from the gaseous titanium tetrachlorides by centrifugation or other mechanical means and slurred in water for discharge from the process as raw waste.

The remaining gaseous titanium tetrachloride is then condensed. Noncondensable reaction gases, containing small amounts of titanium tetrachloride, silicon tetrachloride and hydrogen chloride are water scrubbed, then vented.

Crude titanium tetrachloride is purified to remove traces of silicon, vanadium, iron, magnesium, manganese, aluminum, chromium, etc., by various techniques including distillation, absorption, ion exchange, and chemical precipitation with hydrogen sulfide, inorganic salts, or organic compounds. All methods yield a pure titanium tetrachloride fraction, and a contaminant sludge which is slurred in water and discharged with the cooling tower waste.

The pure titanium tetrachloride is vaporized, superheated, and added to the oxidation reactor with hot air or oxygen to form a pure, finely divided, pigmentary titanium dioxide.

The oxidation reactor product stream, consisting primarily of cholorine, nitrogen, and suspended titanium dioxide is cooled and the titanium dioxide separated mechanically by means of cyclones, bag filters, or precipitators for further processing. Chlorine and nitrogen from the oxidation product stream are fed to the chlorinator with makeup chlorine to produce more titanium tetrachloride. The recovered pigment is calcined and surface treated to impact desirable optical or physical properties. The titanium dioxide is ground to submicron sized particles, and packed as finished product.

(iii) Control and treatment technology for the inorganic chemicals manufacturing category.

Although waste effluents from inorganic chemical plants widely differ in both chemical nature and raw waste loadings, many pollution control techniques and treatment processes are common throughout the industry. Good control and containment practices may significantly reduce the quantity of water

requiring treatment. These practices include monitoring techniques, safety practices, in-process abatement measures, spill and leak prevention, containment provisions, and segregation practices.

The purity of the raw materials used in many manufacturing processes significantly influences the waste load. Economics and availability, however, necessitate use of impure ores and technical grade reactants. These impurities may be controlled by washing, purifying, separating or beneficiating the raw materials prior to use in the manufacturing process. Treatment of ores may be done at the mining site where beneficiating waste may be controlled and handled with minimal pollutant effects.

Segregation of waste streams is an important waste control technique. Large uncontaminated water streams should be separated from the process waste water to minimize the quantity of water requiring treatment.

Spills and leaks can be minimized by employing good housekeeping practices. Provisions for containment and isolation of occasional leaks and spills may be implemented.

Many waterborne wastes result from product losses in bottling, packing, or shipping areas. Good engineering and housekeeping may be used to reduce losses to a minimum.

In many manufacturing processes wet scrubbers are used to control air pollution. The scrubbing solution may generally be treated and reused or sold. In some cases, conversion to a dry abatement system is justified because of product recovery.

Unit operations and processes to treat process waste water streams in the inorganic chemicals manufacturing category include sedimentation, filtration, clarification, chemical treatments, centrifugation, ion exchange, carbon adsorption, and evaporation. The specific treatment technique and resulting effluent quality depend on the waste load generated by each manufacturing process.

Fourteen chemical manufacturing processes, including the production of aluminum chloride, aluminum sulfate, calcium carbide, hydrochloric acid, calcium oxide, potassium, potassium sulphate, sodium bicarbonate, sodium chloride (by the solar evaporation process), sodium silicate, and sulfuric acid, generate relatively small quantities of waste water. The process waste streams generally may be treated and recycled, reused, evaporated for product recovery, or sold.

The following chemical processes generate waste streams which require treatment to reduce quantities of suspended solids. They include calcium chloride production by solution brine-mining, hydrogen peroxide production by the organic process, sodium production, sodium chloride production by solution-mining and sodium carbonate production by the Solvay process. Treatment generally consists of various liquid-solid separation operations including sedimentation and filtrations to reduce effluent concentrations of suspended solids to 25 mg/l.

Neutralization of acidic or alkaline streams is required. Recycle and reuse of various waste streams are possible. Additional treatment and in-process changes (replacement of barometric condensers with noncontact heat exchangers, for example) make chemical production feasible with no discharge of process waste water pollutants for all processes except soda ash production. Additional treatment of soda ash waste will reduce the suspended solids concentration to 15 mg/l.

The remaining manufacturing processes, hydrogen peroxide production by the electrolytic process, sodium dichromate and sodium sulfate production, chlor-alkali facilities using either the diaphragm or mercury cell process and titanium dioxide production by the chloride or sulfate process, require treatment to reduce suspended solids concentrations. In addition, the effluent contains dissolved metals which are present in potentially harmful quantities. The presence of these pollutants, including mercury, lead, chromium and other metals, necessitates additional treatment specific for the potentially harmful pollutant present. Cyanide solutions from the electrolytic process to manufacture hydrogen peroxide may be passed through an ion exchange system and oxidized to a cyanate solution. Chloralkali plants using the mercury cell process may treat mercury-containing streams with sodium sulfide. Lead discharges from the diaphragm cell process may be eliminated by use of stable metal anodes. Hexavalent chromium resulting from the production of sodium dichromate may be reduced to trivalent chromate and precipitated with lime or caustic.

Additional treatment based on available technologies and various in-process modifications make it possible to produce the above named chemicals, except titanium dioxide, with no process waste water discharge. Although acid recovery and reuse is being investigated in the titanium dioxide production process, it has not been demonstrated in large scale operation. Additional treatment will reduce the effluent suspended solids concentration to 15 mg/l.

(iv) Cost estimates and economic impact for control of waste water pollutants in the inorganic chemicals manufacturing category.

Treatment costs to achieve the effluent reductions attainable by the application of the best practicable technology currently available and by application of the best available technology economically achievable are specific for each chemical manufacturing process. The annual cost to achieve the best practicable technology is less than $1/ton of product for fifteen major chemical manufacturing processes. The costs are less than $2/ton of product for five chemicals. Annual treatment costs are $14 and $12/ton of product for hydrofluoric acid and sodium dichromate. Because of the relatively high list price for these chemicals, the treatment costs represent only 2.5 and 3.3 percent of the current list price.

The manufacture of titanium dioxide generates waste water characterized by high pollutant concentrations. Currently only minor treatment is being practiced. The implementation of best practicable technology currently available results in an annual cost of $82/ton of product for the sulfate process and $37/ton of product for the chloride process. These figures are 14 and 6.4 percent of the current list price. Because substitute products may be used only on a limited basis and demand currently exceeds the supply, these costs may be passed on as price increases with minor economic impact.

The incremental annual costs to achieve the degree of reduction attainable by the application of best available technology economically achievable average less than two percent of the current list price for all products from these chemical manufacturing processes. On this basis, it is concluded that these guidelines and standards will have no major economic impact and that the guidelines and standards set forth in this regulation are economically achievable.

(v) Nonwater quality aspects of pollution control in the inorganic chemicals manufacturing category.

The large volumes of sludge generated by some treatment processes create a substantial solid waste problem. Landfill and lagoon sites of adequate size and good design are essential for treatment processes. Best practicable control technology and best available control technology as they are known today, require disposal of the pollutants removed from waste waters in this industry in the form of solid wastes and liquid concentrates. In most cases these are non-hazardous substances requiring only minimal custodial care. However, some constituents may be hazardous and may require special consideration. In order to ensure long term protection of the environment from these hazardous or harmful constituents, special consideration of disposal sites must be made. All landfill sites where such hazardous wastes are disposed should be selected so as to prevent horizontal and vertical migration of these contaminants to ground or surface waters. In cases where geologic conditions may not reasonably ensure this, adequate legal and mechanical precautions (e.g. impervious liners) should be taken to ensure long term protection to the environment from hazardous materials. Where appropriate the location of solid hazardous materials disposal sites should be permanently recorded in the appropriate office of legal jurisdiction. Ocean disposal and deep-well injection may be practiced only under strictly regulated conditions, consistent with the requirements of Federal and State laws.

The inorganic chemicals manufacturing category has large energy requirements for furnaces, kilns, calciners, distillations columns, evaporators, and other common equipment. In contrast, application of the suggested treatment practices consumes less than one percent of this amount.

No significant noise or air pollution problems are expected to result because

of the application of water pollution control equipment.

The report entitled "Development Document for Proposed Effluent Limitations Guidelines and News Source Performance Standards for the major inorganic products Segment of the Inorganic Chemicals Manufacturing Point Source Category" details the analysis undertaken in support of the regulations being proposed herein and is available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and at State water pollution control offices. A supplementary analysis prepared for EPA of the possible economic effects of the proposed regulations is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulations, or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman.

(c) Summary of public participation. Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations guidelines and standards proposed for the phosphate manufacturing category. All participating agencies have been informed of project developments. An initial draft of the Development Document were sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) all State and U.S. Territory Pollution Control Agencies; (3) the Manufacturing Chemists' Association; (4) the Chlorine Institute; Puerto Rico Land Administration; (5) American Society of Mechanical Engineers; (6) American Society of Civil Engineers; (7) Hudson River Sloop Restoration, Inc.; (8) National Resource Defense Council; (9) Water Pollution Control Federation; (10) the National Wildlife Federation; and (11) Michigan Students Environmental Foundation.

The following organizations responded with comments: Department of Defense; Department of Commerce; Commonwealth of Kentucky; Department for Natural Resources and Environmental Protection; Texas Water Quality Board; Department of Natural Resources; State of Michigan Water Resources Commission; Michigan Student Environmental Confederation, Inc.; Allied Chemical Corporation; the Chlorine Institute, Inc.; American Cyanamid Company; E. I. duPont De Nemours & Company; FMC Corporation; Manufacturing Chemists' Associations; and Monsanto Industrial Chemicals Company.

The primary issues raised in the development of these proposed effluent limitations guidelines and standards of performance and the treatment of these issues herein are as follows:

(1) The inorganic chemicals manufacturing category is very large and diverse. In establishing effluent guidelines it was necesssary to consider numerous factors which may predicate varying the guidelines to accommodate differences in plant size, age, geographical location, manufacturing processes employed and product mix. Comments from various industrial concerns indicate that they feel these variables justify further segmentation of the industry. The key issue is the degree to which the inorganic chemicals manufacturing category should be segmented for the purpose of establishing effluent guidelines and standards of performance. One extreme is to establish one limitation for the entire industry. Examination of the dissimilarities in manufacturng processes and wasteloads generated for each chemical reveal that this approach is technically unsound. On the other extreme, each chemical plant is unique and presents specific treatment problems. If the regulations presented herein are to reflect every variation, it is necessary to have separate guidelines for each plant. This approach does not reflect the intent of the Act and is unworkable.

The approach selected was to examine all variables and segment the industry into workable subcategories consistent with these variations. Twenty-two subcategories have been established based on the chemical product manufactured. In cases where two dissimilar processes are used to manufacture the same product, separate limitations have been established within the subcategory.

While it is recognized that differences in plant age and size will affect the treatment costs to a certain degree, the limitations presented herein may be practicably achieved industry-wide.

Some plants use dry air pollution abatement systems whereas others employ wet scrubbers. Again, it is recognized that it is more difficult for plants using wet scrubbers to achieve the effluent limitations. However, this scrubbing solution may be treated and subsequently recycled or sold. In some cases, product recovery justifies conversion to a dry system.

Other variations, including quality of raw materials, product mix, and geographical locations, are addressed in the Development Document where alternative treatment schemes are presented to demonstrate industry-wide applicability.

(2) Some commentors criticized the methodology used in preparing the effluent limitations and standards of performance. The concept of basing standards on the exemplary plants was questioned. This approach was detailed in the legislative history of the Act and serves as a logical basis for developing guidelines based on best practicable technology currently available. In many cases in the inorganic chemical industry, only one or two plants were considered exemplary based on waste water treatment of effluents generatd by the production of a given chemical. Industry representatives interpret "average of the best" to require the compilation of data from a wider segment of the industry. In many cases, however, only one or two plants were demonstrating exemplary treatment practices. Where this treatment was considered economically practicable and applicable industry-wide, it was selected as the basis for guidelines.

(3) Industry representatives and various government agencies questioned the appropriateness of establishing a 1977 standard for fourteen chemicals requiring a zero discharge of process waste water pollutants to navigable waters, when the Act lists this as a national goal to be achieved by 1983.

Technology based standards as detailed in Sections 301, 304(b) and 306 require the maximum pollutant reductions prior to 1983 consistent with the economic and technological factors considered under Sections 304(b) and 306. This does not preclude the promulgation of a zero discharge standard for 1977.

All fourteen chemicals are currently being produced in exemplary plants with a zero discharge of process waste water pollutants. Zero discharge may be achieved for ten of the fourteen chemicals at an annual incremental cost of less than one percent of the list price. Three other chemicals may be manufactured with a zero discharge by spending less than four percent of the current list price. Sodium chloride production by brine-mining requires an expenditure of eleven percent of the list price. Because of the relatively low price, however, this results in a price increase of only 0.1 cents/lb of product which will not significantly impact the economy.

(4) Commentors expressed concern about an initial proposal to eliminate the discharge of process waste water pollutants from the Solvay process used to manufacture soda ash. This process generates extremely large quantities of pollutants, most of which are currently discharged with little treatment. An alternate process, mining trona, exists for producing soda ash. This mining operation is relatively clean and produces soda ash at an equitable price. (Shipping costs are offset by large operating costs for the Solvay process plants.) Currently forty percent of the soda ash manufactured in the United States results from mining trona, and production figures indicate that this percentage will continue to increase. There appears to be an ample supply of this ore, sufficient to accommodate the soda ash market for years to come.

It was concluded that no technology is available and economically achievable for the elimination of dicharges from Solvay plants. Although the mining option exists, it was felt that Congress did not intend to eliminate large scale operations. The 1983, standard proposed herein requires implementation of the best available treatment technology which is economically achievable for Sol-

vay plants. New source Solvay plants are required to achieve zero discharge of process waste water pollutants, but this will have no impact on existing facilities. It is recognized that this standard may well constitute a prohibition of construction of new Solvay process plants unless some radical new technology is developed. However, ample supplies of soda ash may be obtained by mining trona. Moreover the newest Solvay process plant was constructed in 1933 and there are no known plans to build any new Solvay plants.

(5) Industry felt that the cost data for pollution control equipment given in Section VIII of the Report is underestimated.

The cost information was obtained directly from industry during exemplary plant visits, from engineering firms and equipment suppliers, and from literature. The information obtained from the latter three sources was used to develop general capital, operating and overall costs of each treatment and control method. This data plus the specific information verified by plant visits was used to generate the cost effectiveness curves in Section VIII of the Development Document and wherever else costs are mentioned.

(6) Dissolved solids are presented in significant quantities in the effluent resulting from the manufacture of most inorganic chemicals. Initially, guidelines were proposed limiting the quantities of dissolved solids. Many comments detailed objections to limiting total dissolved solids. In many cases, discharged sulfates and chlorides caused no deleterious effects in receiving waters. The disposal methods for concentrated dissolved solids have large energy requirements. Considering the non-water quality impact and cost-benefit relationship, it was concluded that only harmful dissolved materials (mercury, lead, etc.) could be practicably limited by technology based standards.

(7) Various agencies expressed concern about the ultimate disposal methods for harmful solid materials including mercury, chromium, etc. As detailed in the Development Document, care must be taken to prevent future dissolution of these materials and subsequent pollution of navigable waters by run-off or ground water infiltration. These metals remain soluble and may be carried into ground water unless extraordinary measures are taken to prevent leaching. Ocean dumping and deep-well disposal are allowed only under strictly regulated conditions in accordance with the requirements of applicable Federal and State laws.

(8) Several comments question the economic feasibility of achieving the proposed limitations for chlor-alkali plants. Industry felt that a zero discharge of process waste water pollutants is impossible to achieve, and that further segmentation of the chlor-alkali industry based on size and product mix in individual plants is required.

The effluent limitations based on best practicable technology currently available are being achieved in three exemplary plants. Treatment for both the mercury cell and diaphragm cell chlor-alkali plant effients consists of incinerating or landfilling chlorinated organic wastes, filtering and settling cell rebuilding wastes, ponding or returning brine purification muds to the brine cavity and partial recycle of the weak brine solutions. In the mercury cell process, curbing and collection of leaks and spills, followed by treatment with sodium sulfide, are required to reduce effluent mercury concentrations.

Although no plants are currently achieving no discharge of process waste water pollutants, the required technology is available and demonstrated. Annual incremental costs to achieve this level are less than one percent of the current list price. Available technology which will effect a zero discharge of pollutants consists of using the spent sulfuric acid solution for neutralization of other plant waste streams, sale as weak acid, sale to an acid regeneration plant for reprocessing or recycling after concentration. The hypochlorite waste from the tail gas scrubber may be treated and subsequently recycled, sold, or used to manufacture HCl. All weak brine solutions may be recycled to the process after extraction elimination of impurities. In the diaphragm cell process, the use of dimensionally stable anodes will eliminate the lead discharge.

(9) Many comments referred to cooling water, boiler blowdown waste water problems, and water supply waste water problems. These are to be dealt with later as a separate category. Any cooling water that picks up process related pollutants from leaks becomes process waste water. It is the responsibility of the plant to monitor cooling water streams for leaks, and to treat contaminated cooling water to the standards established for process waste water discharges.

(10) It has been pointed out by commenters that the economic impact analysis considered fully only 16 of the chemical commodities subject to this regulation. Because the remaining chemicals are largely interdependent with chemicals considered fully in the analyses or because the projected cost increase was a small percentage of the selling price, these chemicals did not appear to require a rigorous economic impact analysis. However, because of this comment, EPA is undertaking a further analysis of the economic impact of these regulations on the production of calcium chloride, sodium bicarbonate, sodium carbonate, sodium chloride, sodium metal, sodium silicate, sodium sulfite, and potassium sulfate. EPA requests comments and specific data on the possible economic impact of this proposed regulation on these chemicals.

Interested persons may participate in this rulemaking by submitting written comments in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman. Comments on all aspects of the proposed regulations are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which is available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data is essential to the development of the regulations. In the event comments address the approach taken by the agency in establishing an effluent limitation guideline or standard of performance, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 301, 304(b), 306 and 307 of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street, SW., Washington, D.C. A copy of preliminary draft contractor reports, the Development Document and economic study referred to above, and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received within thirty days of publication of this notice in the FEDERAL REGISTER will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Dated October 1, 1973.

RUSSELL E. TRAIN,
Administrator.

PART 415 — EFFLUENT LIMITATIONS GUIDELINES FOR EXISTING SOURCES AND STANDARDS OF PERFORMANCE AND PRETREATMENT STANDARDS FOR NEW SOURCES FOR THE INORGANIC CHEMICALS MANUFACTURING POINT SOURCE CATEGORY

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415.11 Specialized definitions.
415.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
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415.14 Standards of performance for new sources.
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Subpart B—Aluminum Sulfate Production Subcategory

415.20 Applicability; description of aluminum sulfate production subcategory.
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415.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
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415.30 Applicability; description of calcium carbide production subcategory.
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415.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
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Subpart L—Potassium Dichromate Production Subcategory

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Subpart M—Potassium Sulfate Production Subcategory

415.130 Applicability; description of potassium sulfate production subcategory.
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415.132 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
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415.142 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
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415.150 Applicability; description of sodium carbonate production subcategory.
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415.152 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
415.153 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
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Subpart P—Sodium Chloride Production Subcategory

415.160 Applicability; description of sodium chloride production subcategory.
415.161 Specialized definitions.
415.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
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Subpart Q—Sodium Dichromate and Sodium Sulfate Production Subcategory

415.170 Applicability; description of sodium dichromate production subcategory.
415.171 Specialized definitions.
415.172 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
415.173 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
415.174 Standards of performance for new sources.

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415.175 Pretreatment standards for new sources.

Subpart R—Sodium Metal Production Subcategory

415.180 Applicability; description of sodium metal production subcategory.
415.181 Specialized definitions.
415.182 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
415.183 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
415.184 Standards of performance for new sources.
415.185 Pretreatment standards for new sources.

Subpart S—Sodium Silicate Production Subcategory

415.190 Applicability; description of sodium silicate production subcategory.
415.191 Specialized definitions.
415.192 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
415.193 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
415.194 Standards of performance for new sources.
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Subpart T—Sodium Sulfite Production Subcategory

415.200 Applicability; description of sodium sulfite production subcategory.
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415.202 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
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Subpart U—Sulfuric Acid Production Subcategory

415.210 Applicability; description of sulfuric acid production subcategory.
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415.212 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
415.213 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
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Subpart V—Titanium Dioxide Production Subcategory

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415.220 Applicability; description of titanium dioxide production subcategory.
415.221 Specialized definitions.
415.222 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
415.223 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
415.224 Standards of performance for new sources.
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Subpart A—Aluminum Chloride Production Subcategory

§ 415.10 Applicability; description of aluminum chloride production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of aluminum chloride.

§ 415.11 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of aluminum chloride.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.14 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through ap-

plication of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.15 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the act, for a source within the aluminum chloride subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, of this title, pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.14, Part 415: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart B—Aluminum Sulfate Production Subcategory

§ 415.20 Applicability; description of aluminum sulfate production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of aluminum chloride.

§ 415.21 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of aluminum sulfate.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.24 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.25 Pretreatment standards for sources.

The pretreatment standards under section 307(c) of the Act, for a source within the aluminum sulfate subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.24, Part 415 provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart C—Calcium Carbide Production Subcategory

§ 415.30 Applicability; description of calcium carbide production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of calcium carbide.

§ 415.31 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of calcium carbide.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: there shall be no discharge of process waste water pollutants to navigable waters.

§ 415.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: there shall be no discharge of process waste water pollutants to navigable waters.

§ 415.34 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: there shall be no discharge of process waste water pollutants to navigable waters.

§ 415.35 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the calcium carbide subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128, of this title except that for the purposes of this section, § 128.133, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, of this title the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.34, Part 415 provided that, if the publicly owned treatment works which receives the pollutants is com-

mitted, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart D—Calcium Chloride Production Subcategory

§ 415.40 Applicability; description of calcium chloride production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of calcium chloride by the brine extraction process.

§ 415.41 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of calcium chloride.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

(c) The term "product" shall mean calcium chloride.

(d) The following abbreviations shall have the following meanings: (1) kg shall mean kilogram(s); (2) kkg shall mean 1,000 kilograms; (3) lb shall mean pound(s); and (4) TSS shall mean total suspended nonfilterable solids.

§ 415.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitation*
TSS	Maximum for any one day 0.016 kg/kkg product (0.016 lb/1,000 lb).
pH	Maximum average of daily values for any period of thirty consecutive days 0.0082 kg/kkg of product (0.0082 lb/1,000 lb). within the range 6.0 to 9.0.

§ 415.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.44 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.45 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the calcium chloride subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in section § 415.44, Part 415 provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart E—Calcium Oxide and Hydroxide Production Subcategory

§ 415.50 Applicability; description of calcium oxide and hydroxide production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of calcium oxide and hydroxide.

§ 415.51 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of lime.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.54 Standards of performance for new sources.

The following limitations consitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.55 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the calcium oxide and hydroxide subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.54, Part 415 provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart F—Chlorine and Sodium or Potassium Hydroxide Production Subcategory

§ 415.60 Applicability; description of the chlorine and sodium or potassium hydroxide production category.

The provisions of this subpart are applicable to discharges resulting from the production of chlorine and sodium or po-

tassium hydroxide in chlor-alkali plants by the mercury cell process or by the diaphragm cell process.

§ 415.61 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of chlorine and sodium or potassium hydroxide.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

(c) The term "product" means chlorine.

(d) The following abbreviation shall have the following meanings: (1) kg shall mean kilogram(s); (2) kkg shall mean 1000 kilograms; (3) lb shall mean pound(s); (4) TSS shall mean total suspended nonfilterable solids.

§ 415.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the production of chlorine, sodium or potassium hydroxide by the mercury cell process after application of the best practicable technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 0.64 kg/kkg product (0.64 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.32 kg/kkg of product (0.32 lb/1,000 lb).
Total Dissolved Mercury.	Maximum for any one day 0.00014 kg/kkg product (0.00014 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.00007 kg/kkg of product (0.00007 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the production of chlorine, sodium or potassium hydroxide by the diaphragm cell process after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
TSS	Maximum for any one day 0.17 kg/kkg product (0.17 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.083 kg/kkg of product (0.083 lb/1,000 lb).
Total Dissolved Lead.	Maximum for any one day 0.005 kg/kkg product (0.005 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0025 kg/kkg of product (0.0025 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.

§ 415.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.64 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.65 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the chlorine and sodium or potassium hydroxide subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.64, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart G—Hydrochloric Acid Production Subcategory

§ 415.70 Applicability; description of hydrochloric acid production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of hydrochloric acid by direct reaction of chlorine with hydrogen.

§ 415.71 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of hydrochloric acid.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.72 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.73 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.74 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.75 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the hydrochloric acid subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in

§ 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.74, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart H—Hydrofluoric Acid Production Subcategory

§ 715.80 Applicability; description of hydrofluoric acid production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of hydrofluoric acid.

§ 415.81 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of hydrofluoric acid.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.82 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.83 Effluent limitations guidelines representing the degree of effluent reduction attainable bythe application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.84 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.85 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the hydrofluoric acid subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.84, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart I—Hydrogen Peroxide Production Subcategory

§ 415.90 Applicability; description of hydrogen peroxide production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of hydrogen peroxide by the electrolytic process and by the oxidation of alkyl hydroanthraquinones.

§ 415.91 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of hydrogen peroxide.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

(c) The term "product" shall mean hydrogen peroxide.

(d) The following abbreviations shall have the following meanings: (1) kg shall mean kilogram(s); (2) kkg shall mean 1,000 kilograms; (3) lb shall mean pound(s); (4) TSS shall mean total suspended nonfilterable solids; (5) other dissolved metals shall mean iron and platinum; and (4) TCC shall mean total organic carbon.

§ 415.92 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the production of hydrogen peroxide by the oxidation process after application of the best practicable technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
TSS	Maximum for any one day 0.8 kg/kkg product (0.8 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.4 kg/kkg of product (0.4 lb/1,000 lb).
TOC	Maximum for any one day 0.44 kg/kkg product (0.44 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.22 kg/kkg of product (0.22 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the production of hydrogen peroxide by the electrolytic process after application of best practicable control technology currently available by a point source subject to these provisions of this subpart:

Effluent characteristic	*Effluent limitations*
TSS	Maximum for one day 0.005 kg/kkg product (0.005 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.0025 kg/kkg product (0.0025 lb/1,000 lb).
Total Dissolved Cyanide.	Maximum for one day 0.0004 kg/kkg product (0.0004 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.0002 kg/kkg product (0.0002 lb/1,000 lb).
Total Other Dissolved Metals.	Maximum for one day 0.004 kg/kkg product (0.004 kg/kkg).
	Maximum average of daily values for any period of thirty consecutive days 0.0002 kg/kkg product (0.0002 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.

§ 415.93 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.94 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes,

operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.95 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the hydrogen peroxide subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.94, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart J—Nitric Acid Production Subcategory

§ 415.100 Applicability; description of nitric acid production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of nitric acid by the catalytic oxidation of ammonia.

§ 415.101 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of nitric acid.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.102 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.103 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.104 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.105 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the nitric acid subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128, of this title except that for the purposes of this section, § 128.133 of this title, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.104, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart K—Potassium Metal Production Subcategory

§ 415.110 Applicability; description of potassium metal production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of potassium metal.

§ 415.111 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of potassium.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.112 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.113 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.114 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.115 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the potassium subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133, of this title, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.114, provided that, if

the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart L—Potassium Dichromate Production Subcategory

§ 415.120 Applicability; description of potassium dichromate production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of potassium dichromate.

§ 415.121 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of potassium dichromate.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.122 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.123 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.124 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.125 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the potassium dichromate subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.124, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart M—Potassium Sulfate Production Subcategory

§ 415.130 Applicability; description of potassium sulfate production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of potassium sulfate.

§ 415.131 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of potassium sulfate.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.132 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currenly available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.133 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.134 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.135 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the potassium sulfate subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.134, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart N—Sodium Bicarbonate Production Subcategory

§ 415.140 Applicability; description of sodium bicarbonate production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of sodium bicarbonate.

§ 415.141 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of sodium bicarbonate.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.142 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.143 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.144 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.145 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the sodium bicarbonate subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.144, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart O—Sodium Carbonate Production Subcategory

§ 415.150 Applicability; description of sodium carbonate production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of sodium carbonate by the Solvay process.

§ 415.151 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of sodium carbonate.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

(c) The term "product" shall mean sodium carbonate.

(d) The following abbreviations shall have the following meanings: (1) kg shall mean kilogram(s); (2) kkg shall mean 1,000 kilograms; (3) lb shall mean pound(s); (4) TSS shall mean total suspended nonfilterable solids.

§ 415.152 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitation*
TSS	Maximum for any one day 0.34 kg/kkg product (0.34 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.17 kg/kkg of product (0.17 lb/1,000 lb).
pH	within the range 6.0 to 9.0.

§ 415.153 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 0.2 kg/kkg product (0.2 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.1 kg/kkg of product (0.1 lb./1,000 lb).
pH	Within the range 6.0 to 9.0.

§ 415.154 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.155 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the sodium carbonate subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128, of this title, except that for the purposes of this section, § 128.133 of this title, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.154, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart P—Sodium Chloride Production Subcategory

§ 415.160 Applicability; description of sodium chloride production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of sodium chloride by the solution brine-mining process and by the solar evaporation process.

§ 415.161 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of sodium chloride.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

(c) The term "product" shall mean sodium chloride.

(d) The following abbreviations shall have the following meanings: (1) kg shall mean kilogram(s); (2) kkg shall

mean 1000 kilograms, (3) lb shall mean pound(s); and (4) TSS shall mean total suspended nonfilterable solids.

§ 415.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the production of sodium chloride by the solar evaporation process after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: there shall be no discharge of process waste water pollutants to navigable waters.

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the production of sodium chloride by the brine-mining process after application of the best practicable technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitation*
TSS	Maximum for any one day 0.30 kg/kkg product (0.30 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.15 kg/kkg product (0.15 lb/1,000 lb).
pH	within the range 6.0 to 9.0.

§ 415.163 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.164 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.165 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the sodium chloride subcategory, which is an industrial user of publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128, of this title except that for the purposes of this section, § 128.133 of this title, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.164, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart Q—Sodium Dichromate and Sodium Sulfate Production Subcategory

§ 415.170 Applicability; description of sodium dichromate and sodium sulfate production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of sodium dichromate and by-product sodium sulfate.

§ 415.171 Specialized definitions.

For the purpose of this subpart:

(a) the term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of sodium dichromate/sodium sulfate.

(b) the term "process waste water pollutants" shall mean any pollutants present in the process waste water.

(c) the term "product" shall mean sodium ichromate.

(d) the following abbreviations shall have the following meanings: (1) kg shall mean kilogram(s); (2) kkg shall mean 1000 kilograms; (3) lb shall mean pound(s); (4) TSS shall mean total suspended nonfilterable solids.

§ 415.172 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
TSS	Maximum for any one day 0.44 kg/kkg product (0.44 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.22 kg/kkg of product (0.22 lb/1,000 lb).
Total Chromium.	Maximum for any one day 0.0088 kg/kkg product (0.0088 lb/1,000 lb).
Hexavalent Chromium.	Maximum average of daily values for any period of thirty consecutive days 0.0044 kg/kkg of product (0.0044 lb/1,000 lb). Maximum for any one day 0.0018 kg/kkg product (0.0018 lb/1,000 lb).
pH	Maximum average of daily values for any period of thirty consecutive days 0.0009 kg/kkg of product (0.0009 lb/1,000 lb). within the range 6.0 to 9.0.

§ 415.173 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.174 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.175 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the sodium dichromate and sodium sulfate subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.174, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment stand-

ard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart R—Sodium Metal Production Subcategory

§ 415.180 Applicability; description of sodium metal production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of sodium metal by electroylsis.

§ 415.181 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of sodium.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

(c) The term "product" shall mean sodium metal.

(d) The following abbreviations shall have the following meanings: (1) kg shall mean kilogram(s); (2) kkg shall mean 1,000 kilograms; (3) lb shall mean pound(s); and (4) TSS shall mean total suspended nonfilterable solids.

§ 415.182 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent Limitation*
TSS	Maximum for any one day 0.46 kg/kkg product (0.46 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.23 kg/kkg of product (0.23 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.

§ 415.183 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.184 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.185 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the sodium subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128, of this title except that for the purposes of this section, § 128.33 of this title, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.184, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart S—Sodium Silicate Production Subcategory

§ 415.190 Applicability; description of sodium silicate production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of sodium silicate.

§ 415.191 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of sodium silicate.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.192 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subject: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.193 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available t chnology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.194 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.195 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the sodium silicate subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128, of this title, except that for the purposes of this section, § 128.133 of this title, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.194, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart T—Sodium Sulfite Production Subcategory

§ 415.200 Applicability; description of sodium sulfite production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of sodium sulfite from the reaction of sulfur dioxide with soda ash.

§ 415.201 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into di-

rect contact with any raw material, intermediate product, by-product or product used in or resulting from the production of sodium sulfite.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

(c) The term "product" shall mean sodium sulfite.

(d) The following abbreviations shall have the following meanings: (1) kg shall mean kilogram(s); (2) kkg shall mean 1000 kilograms; (3) lb shall mean pound(s); (4) TSS shall mean total suspended nonfilterable solids and (5) COD shall mean chemical oxygen demand.

§ 415.202 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart:

Effluent charactistic	*Effluent Limitation*
TSS	Maximum for any one day 0.032 kg/kkg product (0.032 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days .016 kg/kkg product (.016 lb/1,000 lb).
COD	Maximum for any one day 3.4 kg/kkg product (3.4 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 1.7 kg/kkg product (1.7 lb/1,000 lb).
ph	Within the range 6.0 to 9.9.

§ 415.203 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.204 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.205 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the sodium sulfite subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128, of this title, except that for the purposes of this section, § 128.133 of this title, 40 CFR shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.204, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart U—Sulfuric Acid Production Subcategory

§ 415.210 Applicability; description of sulfuric acid production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of sulfuric acid by the catalytic oxidation of sulfur dioxide in single or double absorption plants.

§ 415.211 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of sulfuric acid.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

§ 415.212 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.213 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.214 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 415.215 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the sulfuric acid subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128, 40 CFR, except that for the purposes of this section, § 128.133 shall be amended to read as follows: "In addition to the prohibitions set forth in section 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.214, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart V—Titanium Dioxide Production Subcategory

§ 415.220 Applicability; description of titanium dioxide production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of titanium dioxide by the sulfate process and by the chloride process.

§ 415.221 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the production of titanium dioxide.

(b) The term "process waste water pollutants" shall mean any pollutants present in the process waste water.

(c) The term "product" shall mean titanium dioxide.

(d) The term "other dissolved metals" shall mean vanadium (as V_2O_5), aluminum (as Al_2O_3), silicon (as SiO_2), chromium (as Cr_2O_3), magnesium (as MgO),

neodymium (as Nd_2O_3) and zirconium (as ZrO_2).

(e) The following abbreviations shall have the following meanings: (1) kg shall mean kilogram(s); (2) kkg shall mean 1000 kilograms; (3) lb shall mean pound(s); (4) TSS shall mean total suspended nonfilterable solids.

§ 415.222 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the production of titanium dioxide by the chloride process after application of the best practicable technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 4.4 kg/kkg product (4.4 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.2 kg/kkg of product (2.2 lb/1,000 lb).
Total dissolved iron.	Maximum for any one day 0.072 kg/kkg product (0.072 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.036 kg/kkg of product (0.036 lb/1,000 lb).
Total dissolved lead.	Maximum for any one day 0.028 kg/kkg product 0.028 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.014 kg/kkg of product (0.014 lb/1,000 lb).
Total other dissolved metals.	Maximum for any one day 0.03 kg/kkg product (0.03 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.
	Maximum average of daily values for any period of thirty consecutive days 0.015 kg/kkg of product (0.015 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the production of titanium dioxide by the sulfate process after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 5.0 kg/kkg product (5.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.5 kg/kkg of product (2.5 lb/1,000 lb).
Magnesium (as MgO).	Maximum for any one day 2.0 kg/kkg product (2.0 lb/1,000 lb).
Cobalt (as CoO).	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Silicon (as SiO_2).	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Chromium (as Cr_2O_3).	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Aluminum (as Al_2O_3).	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Iron (as Fe_2O_3).	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Vanadium (as V_2O_5).	Maximum for any one day 3.2 kg/kkg product (3.2 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.

§ 415.223 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from production of titanium dioxide by the chloride process after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitation*
TSS	Maximum for any one day 2.6 kg/kkg product (2.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.3 kg/kkg of product (1.3 lb/1,000 lb).
Total dissolved iron.	Maximum for any one day 0.072 kg/kkg product (0.072 lb/1,000 lb). Maximum averages of daily values for any period of thirty consecutive days 0.036 kg/kkg of product (0.036 lb/1,000 lb).
Total dissolved lead.	Maximum for any one day 0.028 kg/kkg product (0.028 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.014 kg/kkg of product (0.014 lb/1,000 lb).
Total other dissolved metals.	Maximum for any one day 0.03 kg/kkg product (0.03 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.015 kg/kkg of product (0.015 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the production of titanium dioxide by the sulfate process after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 3.0 kg/kkg product (3.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.5 kg/kkg of product (1.5 lb/1,000 lb).
Magnesium (as MgC)	Maximum for any one day 2.0 kg/kkg product (2.0 lb/1,000 lb).
Cobalt (as CoO)	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Silicon (as SiO_2)	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Chromium (as Cr_2O_3)	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Aluminum (as Al_2O_3)	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Iron (as Fe_2O_3)	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Vanadium (as V_2O_5)	Maximum for any one day 3.2 kg/kkg product (3.2 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.

§ 415.224 Standards of performance for new sources.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable from the production of titanium dioxide by the chloride process through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 2.6 kg/kkg product (2.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.3 kg/kkg of product (1.3 lb/1,000 lb).
Total dissolved iron.	Maximum for any one day 0.072 kg/kkg product (0.072 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.036 kg/kkg of product (0.036 lb/1,000 lb).
Total dissolved lead.	Maximum for any one day 0.028 kg/kkg product (0.028 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.014 kg/kkg of product (0.014 lb/1,000 lb).
Total other dissolved metals.	Maximum for any one day 0.03 kg/kkg product (0.03 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.015 kg/kkg of product (0.015 lb/1,000 lb).
pH	Within the range 6.0 to 9.0.

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable from the production of titanium dioxide by the sulfate process through application of the best available demonstrated control technology processes, operating methods,

or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent charactistic	*Effluent limitations*
TSS	Maximum for any one day 3.0 kg/kkg product (3.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.5 kg/kkg of product (1.5 lb/1,000 lb).
Magnesium (as MgO).	Maximum for any one day 2.0 kg/kkg product (2.0 lb/1,000 lb).
Cobalt (as CoO).	Maximum for any one day 0.1 kg/kkg product (0.1 lb/1,000 lb).
Silicon (as SiO2).	Maximum for any one day 1.0 kg/kkg product (0.1 lb/1,000 lb).
Chromium (as Cr2O3).	Maximum for any one day 1.0 kg/kkg product (1.0 lb/1,000 lb).
Aluminum (as Al2O3).	Maximum for any one day 1.0 kg/kkg product (1.0 lb/1,000 lb).
Iron (as Fe2O3).	Maximum for any one day 1.0 kg/kkg product (1.0 lb/1,000 lb).
Vanadium (as V2O5).	Maximum for any one day 3.2 kg/kkg product (3.2 lb/1,000 lb).

§ 415.225 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the titanium dioxide production subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this title, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 415.224, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

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[40 CFR Part 416]

EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS OF PERFORMANCE AND PRETREATMENT FOR PLASTICS AND SYNTHETICS POINT SOURCE CATEGORY

Notice of Proposed Rule-Making

Notice is hereby given that effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources set forth in tentative form below are proposed by the Environmental Protection Agency (EPA) for the polyvinyl chloride subcategory (Subpart A), acrylonitrile-butadiene-styrene (ABS), and styrene-acrylonitrile (SAN) resin copolymers subcategory (Subpart B), polyinyl acetate subcategory (Subpart C), polystyrene subcategory (Subpart D), polypropylene subcategory (Subpart E), polyethylene subcategory (Subpart F), cellophane subcategory (Subpart G), rayon subcategory (Subpart H), polyester subcategory (Subpart I), nylon 66 subcategory (Subpart J), nylon 6 subcategory (Subpart K), cellulose acetate subcategory (Subpart L), epoxy resins subcategory (Subpart M), phenolic resins subcategory (Subpart N), urea resins subcategory (Subpart O), melamine resins subcategory (Subpart P), acrylics subcategory (Subpart Q), of this segment of the plastics and synthetics manufacturing category of point sources pursuant to sections 301, 304 (b) and c, and 306(b) and 307(c) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b) and 1317(c); 86 Stat. 816 et seq.; P.L. 92-500) (the "Act").

(a) Legal authority

(1) Existing point sources:

Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) to the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods and other alternatives. The regulations proposed herein set forth effluent limitations guidelines, pursuant to section 304(b) of the Act, for the polyvinyl chloride subcategory (Subpart A), acrylonitrile-butadiene-styrene (ABS) and styreneacrylonitrile (SAN) resin copolymers subcategory (Subpart B), polyvinyl acetate subcategory (Subpart C), polystyrene subcategory (Subpart D), polypropylene subcategory (Subpart E), polyethylene subcategory (Subpart F), cellophane subcategory (Subpart G), rayon subcategory (Subpart H), polyester subcategory (Subpart I), nylon 66 subcategory (Subpart J), nylon 6 subcategory (Subpart K), cellulose acetate subcategory (Subpart I), epoxy resins subcategory (Subpart M), phenolic resins subcategory (Subpart N), urea resins subcategory (Subpart O), melamine resins subcategory (Subpart P), acrylics subcategory (Subpart Q), of this segment of the plastics and synthetics manufacturing source category.

(2) New sources:

Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including where practicable, a standard permitting no discharge of pollutants.

Section 306(b)(1)(B) of the Act requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973, (38 FR 1624) a list of 27 source categories, including the plastics and synthetics category. The regulations proposed herein set forth the standards of performance applicable to new sources for the polyvinyl chloride subcategory (Subpart A), acrylonitrile-butadiene-styrene (ABS) and styrene-acrylonitrile (SAN) resin copolymers subcategory (Subpart B), polyvinyl acetate subcategory (Subpart C), polystyrene subcategory (Subpart D), polypropylene subcategory (Subpart E), polyethylene subcategory (Subpart F), cellophane subcategory (Subpart G), rayon subcategory (Subpart H), polyester subcategory (Subpart I), nylon 66 subcategory (Subpart J), nylon 6 subcategory (Subpart K), cellulose acetate subcategory (Subpart L), epoxy resins subcategory (Subpart M), phenolic resins subcategory (Subpart N), urea resins subcategory (Subpart C), melamine resins subcategory (Subpart P), acrylics subcategory (Subpart Q), of this segment of the plastics and synthetics manufacturing source category.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. Sections 416.15, 416.25, 416.35, 416.45, 416.55, 416.65, 416.75, 416.85, 416.95, 416.105, 416.115, 416.125, 416.135, 416.145, 416.155, 416.165, and 416.175 proposed below provide pretreatment standards for new sources within the polyvinyl chloride subcategory (Subpart A), acrylonitrile-butadiene-styrene (ABS), and styrene-acrylonitrile (SAN), resin copolymers subcategory (Subpart B), polyvinyl acetate subcategory (Subpart C), polystyrene subcategory (Subpart D), polypropylene subcategory (Subpart E), polyethylene subcategory (Subpart F), cellophane subcategory (Subpart G), rayon subcategory (Sub-

part H), polyester subcategory (Subpart I), nylon 66 subcategory (Subpart J), nylon 6 subcategory (Subpart K), cellulose acetate subcategory (Subpart L), epoxy resins subcategory (Subpart M), phenolic resins subcategory (Subpart N), urea resins subcategory (Subpart O), melamine resins subcategory (Subpart P), acrylics subcategory (Subpart Q), of the plastics and synthetics manufacturing category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under Section 306 of the Act. The Development Document referred to below provides, pursuant to section 304(c) of the Act, preliminary information on such processes, procedures or operating methods.

(b) Summary and basis of proposed effluent limitations guidelines, standards of performance and pretreatment standards for new sources:

(1) General methodology:

The effluent limitations guidelines and standards of performance proposed herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations and standards are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate limitations and standards for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of (1) the source, flow and volume of water used in the process employed and the sources of waste and waste waters in the plant; and (2) the constituents of all waste waters. The constituents of the waste waters which should be subject to effluent limitations guidelines and standards of performance were identified.

The full range of control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which are existent or capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, imitiations and reliability of each treatment and control technology were also identified. In addition, the nonwater quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including, air, solid waste, noise and radiation, were identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available," the "best available technology economically achievable" and the "best available demonstrated control technology, processes, operating methods, or other alternatives." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, nonwater quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA sampling and inspections, consultant reports, industry submissions, published and unpublished technical literature and EPA permit applications.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standards proposed for existing sources under Part 128 of 40 CFR. The basis for such standards is set forth in the FEDERAL REGISTER of July 19, 1973, 38 FR 19236. The provisions of Part 128 are equally applicable to sources which would constitute "new sources," under section 306 if they were to discharge pollutants directly to navigable waters, except for section 128.133. That section provides a pretreatment standard for "incompatible pollutants" which requires application of the "best practicable control technology currently available," subject to an adjustment for amounts of pollutants removed by the publicly owned treatment works. Since the pretreatment standards proposed herein apply to new sources, §§4 16.15, 416.25, 416.35, 416.45, 416.55, 416.65, 416.75, 416.85, 416.95, 416.105, 416.115, 416.125, 416.135, 416.145, 416.155, 416.165, and 416.175 below amend § 128.133 to require application of the standard of performance for new sources rather than the "best practicable" standard applicable to existing sources under sections 301 and 304(b) of the Act.

(2) Summary of conclusions with respect to the polyvinyl chloride subcategory (Subpart A), acrylonitrile-butadiene-styrene (ABS) and styrene-acrylonitrile (SAN) resin copolymers subcategory (Subpart B), polyvinyl acetate subcategory (Subpart C), polystyrene subcategory (Subpart D), polypropylene subcategory (Subpart E), polyethylene subcategory (Subpart F), cellophane subcategory (Subpart G), rayon subcategory (Subpart H), polyester subcategory (Subpart I), Nylon 66 subcategory (Subpart J), Nylon 6 subcategory (Subpart K), cellulose acetate subcategory (Subpart L), epoxy resins subcategory (Subpart M), phenolic resins subcategory (Subpart N), urea resins subcategory (Subpart O), melamine resins subcategory (Subpart P), acrylics subcategory (Subpart Q), of this segment of the plastics and synthetics manufacturing category of point sources.

(1) Categorization.

For the purpose of studying waste treatment and effluent limitations, the plastics and synthetics manufacturing category was divided into discrete product subcategories which coincide with a breakdown of the category as outlined in the Development Document. The plastics and synthetics manufacturing industry parameters giving the most effective categorization were found to be waste water characteristics, specifically: raw waste load, with a BOD5 value of greater than 10 kg/kkg (lb/1000 lb) defined as high raw waste load and raw waste load with a BOD5 value of less than 10 kg/kkg (lb/1000 lb) defined as low raw waste load; attainable BOD5 concentrations (as demonstrated by plastics and synthetics plants using technologies which are defined herein as the basis for best practicable control technology currently available) under 20 ppm BOD5 defined as low attainable BOD5 concentrations; attainable BOD5 concentrations of 30 ppm–75 ppm defined as medium attainable BOD5 concentrations; and attainable BOD5 concentrations of above 75 ppm defined as high attainable BOD5 concentrations.

Based on these two dimensions of categorization, four major groupings were defined:

Grouping I—low waste load, low attainable BOD5 concentration: polyvinyl chloride: polyvinyl acetate, polystyrene, polyethylene, polypropylene;

Grouping II—high waste load, low attainable BOD5 concentrations; cellophane, rayon, ABS/SAN;

Grouping III—high waste load, medium attainable IIOD5 concentrations: Nylon 66, Nylon 6, cellulose acetates, epoxies, phenolics, urea resins, melamine; resine;

Grouping IV—high waste load, high attainable BOD5 concentrations: acrylics.

Additional subcategorization within the above four major groupings was necessary to account for the waste water generation which is specific to the individual products and their various processing methods. The separation of each individual product into separate subcategories simplifies the application of the effluent limitation guidelines and standards of performance by providing clear and unambiguous direction as to the proper standard applicable to that product. The substantial advantage of clarity appears to outweigh any technical advantages of product grouping. Hence, for these reasons the following product subcategorization is used for the application of effluent limitation guidelines and standards of performance in this segment of the category.

(1) Subpart A—Polyvinyl Chloride Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of vinyl chloride by bulk polymerization, or suspension polymerization,

or emulsion polymerization and associated processing to manufacture polyvinyl chloride.

(2) Subpart B—Acrylonitrile-Butadiene-Styrene (ABS) and Styrene-Acrylonitrile (SAN) Resin Copolymers Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of acrylonitrile, butadiene, and styrene and associated processing to manufacture ABS resins and the polymerization reaction of styrene and acrylonitrile and associated processing to manufacture SAN resins.

(3) Subpart C—Polyvinyl Acetate Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of vinyl acetate and associated processing to manufacture polyvinyl acetate.

(4) Subpart D—Polystyrene Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of styrene by suspension polymerization or by bulk polymerization and associated processing to manufacture polystyrene.

(5) Subpart E—Polypropylene Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of propylene and associated processing to manufacture polypropylene.

(6) Subpart F—Polyethylene Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization of ethylene and associated processing to manufacture low density polyethylene and the polymerization reaction of ethylene by the solvent process or by the polyform process to manufacture high density polyethylene.

(7) Subpart G—Cellophane Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the processing of wood pulp to manufacture cellophane and associated processing.

(8) Subpart H—Rayon Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the processing of wood pulp to manufacture rayon and associated processing.

(9) Subpart I—Polyester Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of a dihydric alcohol and terephthalic acid or dimethyl terephtholate and associated processing to manufacture polyester resins and subsequent processing to manufacture polyester fibers.

(10) Subpart J—Nylon 66 Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of hexamethylene diamine and adipic acid and associated processing to manufacture nylon 66 resin and/or fiber.

(11) Subpart K—Nylon 6 Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of caprolactam and associated processing to manufacture nylon 6 resin and/or fiber.

(12) Subpart L—Cellulose Acetate Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the processing of wood pulp with acetic acid and acetic anhydride and associated processing to manufacture cellulose acetate fibers and/or resins.

(13) Subpart M—Epoxy Resins Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the reaction between epichlorohydiun and bisphenol A and/or other reactants which create an epoxy group within the resin and associated processing to manufacture epoxy resins.

(14) Subpart N—Phenolic Resins Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the reaction of phenol or a substituted phenol such as creosol or resorcinol and an aldehyde such as formaldehyde or acetaldehyde and associated processing to manufacture phenolic resins.

(15) Subpart O—Urea Resins Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the reaction of urea and formaldehyde and associated processing to manufacture urea resins.

(16) Subpart P—Melamine Resins Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the reaction of melamine and formaldehyde and associated processing to manufacture melamine resins.

(17) Subpart Q—Acrylics Subcategory: This subpart is applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of acrylonitrile and associated processing and the copolymerization reaction of acrylonitrile and vinylidene chloride and/or vinyl chloride to manufacture acrylic resins and fibers.

Several other factors for subcategorization of the industry were considered. These included plant size, plant age, raw materials and products, and air pollution and solid waste generation. The rate of higher unit treatment costs on smaller plants or their potential for uilizing municipal systems was examined in the economic analysis but was not sufficient to warrant categorization. The age of the plants in this industry are determined by obsolescence due to size or process changes and not physical age. Similar raw materials are often used to make dissimilar products. The impact of air pollution control and solid waste disposal are not sufficient to warrant segmentation. For those reasons, none of the above-mentioned factors had sufficient impact on categorization of the industry to be considered further.

(ii) Waste characteristics and sources of the plastics and synthetics industry.

The ranges of raw waste loads reported in the plastics and synthetics industry vary from 0 to 135 kg/kkg of product for BOD5, from 0 to 334 for COD, and from 0 to 25 for suspended solids. BOD5, COD and suspended solids are the critical constituents requiring guidelines and standards.

Other constituents are even more specific to the product subcategory, and are summarized below.

Subcategory	*Other Element or Compound*
ABS/SAN	Iron.
	Aluminum.
	Nickel.
	Total Chromium.
	Organic Nitrogen.
POLYSTYRENE	Iron.
	Aluminum.
	Nickel.
	Total Chromium.
POLYPROPYLENE	Vanadium.
	Titanium.
	Aluminum.
HI-DENSITY POLYETHYLENE.	Titanium.
	Aluminum.
	Vanadium.
	Molybdenum.
	Total Chromium.
CELLOPANE	Dissolved Solids.
RAYON	Zinc.
EPOXY RESINS	Dissolved Solids.
	Phenolic Compounds.
PHENOLIC RESINS	Phenolic Compounds.
	Organic Nitrogen.
UREA RESINS	Nickel.
	Cobalt.
	Organic Nitrogen.
MELAMINE	Organic Nitrogen.
NYLON 6 AND 66	Organic Nitrogen.
ACRYLICS	Phenolic Compounds.

Effluent limitations guidelines and standards of performance are proposed for total chromium, phenolic compounds, and zinc for the specified product. The additional polluant parameters of dissolved solids, organic nitrogen, iron, nickel, aluminum, vanadium, titanium, molybedenum, and cobalt were selected because they are known to be used in the processes or to occur in the waste waters of specific product subcategories. However, insufficient data was available on raw waste loads or treated waste waters to permit proposing guidelines and standards at this time. In most cases where metals are used, biological treatment systems reduce or remove them to low concentration levels. The above pollutants parameters should be considered to be present in the specific product subcategories as previously summarized. Receiving water quality standards should determine if limitations are necessary.

(iii) Treatment and control technology.

Control and treatment technology currently in use by the industry includes equalization, chemical treatment, precipitation, settling, biological systems (activated sludge, aerated lagoons, aerobic-anaerobic lagoons, trickling filters, extended containment, etc.) clarification, filtration, polishing lagoons, and incineration. Most of these technologies are generally applicable across the entire plastics and synthetics industry.

Potentially applicable control and treatment technology includes adsorption (activated carbon, adsorbent floc), multi-media filtration, chemical precipitation, chemical treatments, anaerobic processes, air or steam stripping, foam separation, algal systems, wet air oxidation, incineration, liquid extraction, ion exchange, reverse osmosis, freeze thaw, evaporation, and electrodialysis. Most of these technologies are for the removal of specific pollutant parameters and can be applied in cases where the pollutant parameter is a problem.

In plant technology and control which is currently in practice in the plastics and synthetics industry include segregation of contact process waste water from noncontact waste water, elimination of once through barometric condensers, control of leaks, and good housekeeping practices.

(iv) Cost estimates for control of waste water.

Approximately 280 company operations are included in these seventeen product subcategories. 1972 production for these products was estimated at 12 million kkg (26 billion pounds) per year. The 1972 water usage was estimated to be 1,035 thousand cubic meters per day (275 MGD), Water usage (at current hydraulic loads) was projected to increase at 9.5 percent/year through 1977.

Annual costs of treatment for the plastics and synthetics industry in 1972 were estimated at $25 million. By 1977, under BPCTCA guidelines, these same plants in seventeen product subcategories were estimated to expect annual costs of $66 million—an increase of pollution control costs of 21 percent/year. By 1983, under BATEA guidelines, existing plants were estimated to expect annual costs of $192 million—an increase of 19 percent/year between 1977 and 1983. By 1977, under BADT–NSPS and estimated product growth, the annual costs for new plants was estimated at $35 million. The estimated average costs of water pollution control over the industry for BPCTCA and BATEA for existing plants and BADT–NSPS for new plants respectively were: $0.19 (0.73), $0.56 ($2.11), and $0.27 ($1.02) per cubic meter (thousand gallons).

On the average, for BPCTCA, the costs for the smaller plants with higher water usage were 4.0 times higher than the larger plant in each subcategory. The average range for the smaller plants was 0.7 percent to 2.8 percent of sales price. On the average, for BATEA, the costs for the smaller plants with higher water usage were 3.9 times higher than the larger plants in the industry. The average range of costs for applying BATEA to existing plants was 2.1 to 8.1 percent of sales price. The cost of NSPS was estimated at 0.9 percent of sales price over the broad industry. Energy or power costs amounted to less than 5 percent of the total annual water pollution control costs associated with the best practicable technology. Physical-chemical systems specified as best available technology would require more than 5 percent of the total annual water pollution control costs in the form of energy. Incineration of highly concentrated, small volume wastes would involve one-half to two-thirds of total annual costs for this treatment technology in the form of energy requirements.

(v) Nonwater quality aspects.

The nonwater quality aspects of the treatment and control technology for the plastics and synthetics industry are related to (1) the disposal of solids or slurries resulting from waste water treatment and in-process plant control methods, (2) the generation of a by-product of commercial value, (3) disposal of off-specification and scrap products, and (4) the creation of problems of air pollution and land utilization. The nonwater quality aspects of treatment and pollution control are minimal in this industry and largely depend upon the type of waste water treatment technology employed. In general, noise levels from typical waste water treatment plants are not excessive. If incineration of waste sludges is employed, there is a potential for air pollution, principally particulates and possible nitrogen oxides, although stack emission devices exist for control of these problems. There are no radioactive nuclides used within the industry, other than in instrumentation, so that no radiation problems will be encountered. Odors from the waste water treatment plants may cause occasional problems since waste waters are sometimes such that heavy, stable foams occur on aerated basins. But in general, odors are not expected to be a significant problem when compared with odor emissions possible from other plant sources.

(vi) Definition of technology basis for BPCTO, BATEA, and BADT.

Best practicable control technology currently available (BPCTCA) for existing point sources is based on the application of end-of-pipe technology such as biological treatment for BCD reduction as typified by activated sludge, aerated lagoons, trickling filters, aerobic-anaerobic lagoons, etc. with appropriate preliminary treatment typified by equalization to dampen shock loadings, settling, clarification, and chemical treatment, for removal of suspended solids, oils, other elements, and pH control and subsequent treatment typified by clarification and polishing processes for additional BOD and suspended solids removal and dephenolizing units for the removal of phenolic compounds where applicable. Application of in-plant technology and changes which may be helpful in meeting BPCTCA include segregation of contact process waste waters from noncontact waste waters, elimination of once through barometric condensers, control of leaks, and good housekeeping practices. Best available technology economically achievable (BATEA) for existing point sources is based on the best in-plant practices of the industry which minimize the volume of waste generating water as typified by segregation of contact process waters from noncontact waste water, maximum waste water recycle and reuse, elimination of once through barometric condensers, control of leaks, good housekeeping practices, etc., and end-of-pipe technology for the further removal of suspended solids and other elements typified by media filtration, chemical treatment, etc., and further COD removal as typified by the application of adsorption processes such as activated carbon and adsorptive flocs, and incineration for the treatment of highly concentrated small volume wastes and additional biological treatment for further BOD5 removal as needed.

Best available demonstrated technology (BADT) for new source performance standards (NSPS) are based on BPCTCA and the maximum possible reduction of process waste water generation as defined in BATEA and the application of media filtration and chemical treatment for additional suspended solids and other element removal and additional biological treatment for further BOD5 removal as needed.

(vii) Variability,

The effluent from a properly designed and operated treatment plant changes continually due to (a) changes in product mix, production rate and reaction chemistry, which influence the composition of raw waste load and therefore its treatability; and (b) changes in biological factors which influence the efficiency of the treatment process. A common indicator of the strength of the discharge from a plant is the long-term average of the effluent load. The long-term (e.g., design or yearly) average is not a suitable parameter on which to base an enforcement standard. However, by the use of data which shows the variability in the effluent load, statistical analysis can be applied to compute short-term limits (monthly or daily) which should not be exceeded, provided that the plant is designed and run in the proper way to achieve the desired long-term average load. The levels of technology for BPCTCA, BATEA, and BADT take into account this variability as determined from properly designed and operated treatment plants.

(viii) Economic impact analysis.

There are no indications that any significant economic impact would result from imposition of the recommended guidelines for 1977. Some smaller, older plants, whose profitability may be severely impaired by these costs, however, may decide to close prior to 1977. These plants comprise on the order of 1 percent of the industry's capacity, and in most cases, have become uneconomic due to their size or age. Overall, profitability may decline if market conditions prevent those costs from being passed on as price increases.

The effect of the recommended effluent levels for 1983 BAT and NSPS are more difficult to project. For some products, the added costs for BAT appear to be significant (PVC, PVA, HDPE, epoxies, phenolics), if evaluated under current market conditions. However, due to the complexity of projecting market trends a decade into the future, such variables as new products development and high costs of feedstocks may overshadow any pollution abatement costs.

Likewise, the costs for NSPS appear to be significant in several cases, but the uncertainties associated with cost data for plants yet to be built could mitigate any projected impact.

The report entitled "Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for the SYNTHETIC RESINS Segment of the Plastics and Synthetics Manufacturing Point Source Category" details the analysis undertaken in support of the regulations being proposed herein and is available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and State water pollution control offices. A supplementary analysis of the possible economic effects of the proposed regulations prepared for EPA is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulation, or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman.

(c) Summary of public participation.

Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of the effluent limitations guidelines and standards of performance for the plastics and synthetics manufacturing category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) States—All except Kansas, Missouri, Hawaii, Alaska, Utah, North Dakota, Wyoming, Maryland, and Nevada; (3) Territories—All except American Samoa; (4) New England Interstate Water Pollution Control Commission; (5) Ohio River Valley Sanitation Commission; (6) Delaware River Basin Commission; (7) The American Society of Mechanical Engineers; (8) The American Society of Civil Engineers; (9) Hudson River Sloop Restoration, Inc.; (10) The Conservation Foundation, Environmental Defense Fund, Inc.; (11) Natural Resources Defense Council; (12) Water Pollution Control Federation; (13) The National Wildlife Federation; (14) The New York Scientists Committee for Public Information; (15) Department of Interior; (16) Department of Commerce; (17) The Water Resources Council; (18) Department of the Treasury; (19) Department of Defense; (20) Atomic Energy Commission; (21) Department of Health, Education and Welfare; (22) Manufacturing Chemists Association; (23) Synthetic Organic Chemical Manufacturers Association;

Comments were received from the following: Effluent Standards and Water Quality Information Advisory Committee; (2) States of Colorado, North Carolina, Michigan, New York, Nebraska, Texas, California, Hawaii, Georgia, Illinois, Pennsylvania, Arizona, and Kentucky; (3) Delaware River Basin Commission; (4) Water Pollution Control Federation; (5) New York Scientists Committee for Public Information; (6) The Water Resources Council; (7) American Society of Civil Engineers; (8) The Natural Resources Defense Council; (9) Department of Commerce; (10) Department of Defense; (11) Department of Treasury; (12) Atomic Energy Commission; (13) Department of Health Education and Welfare; (14) Department of Interior; (15) Manufacturing Chemists Association; (16) Fiber Industries, Inc.; (17) Rohm and Haas Company; (18) Union Carbide Corporation; (19) Marbon Division, Chemical and Plastic Group, Borg-Warner Corporation; (20) Hercules, Inc.

The comments were highly variable ranging from full approval to total rejection. The primary issues raised in the development of the proposed effluent limitations guidelines and standards of performance and the treatment of these issues herein are as follows:

(1) Several commenters questioned the concentration basis for suspended solids limitations loading as data in the draft document did not support the monthly average value of 30 mg/l for BPCTCA or 5 ppm for BATEA and BADT. By analysis of available data and appropriate variability considerations the concentration basis for the suspended solids monthly average was changed to 42 mg/l for BPCTCA and 10 mg/l for BATEA and BADT.

(2) Several commenters requested that the industries in which both fiber and resin were manufactured be separated such that the guidelines and standards could be applied to them in whole or in part. Product subcategories were expanded to separate fiber and resin operations in the Nylon 66, Nylon 6, polyester, and cellulose acetate product subcategories.

(3) Commenters questioned the waste water flow basis for BPCTCA for several products. By analysis of available data the flow basis for the ABS/SAN, polyester and cellulose acetate product subcategories were changed.

(4) A commenter questioned the CDD/BOD ratio used in the polyester product subcategory based on their analysis of the data. By analysis of the available data the ratio for the polyester guideline basis was changed from 5 to 15.

(5) Commenters questioned the analysis of observed exemplary plant effluent data. By analyzing the available data, changes were made in the following product subcategories: polypropylene, ABS/SAN, Nylon 6, and polyester.

(6) Several commenters questioned the basis for a BPCTCA zinc guideline based on a monthly limit of 10 mg/1 zinc. By analysis of the available data the basis was changed to 4 mg/1 monthly limit and 5 mg/1 daily maximum.

(7) Several commenters requested case by case treatment for other elements and compounds limitations and that only other elements and compounds with demonstrated removability be used for effluent limitations. A table of other elements and compounds was prepared specific to each product subcategory and limitations were developed by the analysis of available data and information.

(8) Several commenters questioned the use of activated carbon technology for BADT–NSPS since this technology has not been demonstrated and proven for the industry product subcategories for the removal of COD. The use of activated carbon as a basis for BADT–NSPS was removed and the appropriate changes in the standards of performance were made. However, this does not preclude activated carbon technology from possible use for COD removal when applicable.

(9) Sever commenters questioned the waste water flow basis for BATEA and BADT as defined in the Draft Contractors Report. The waste water flow basis for BATEA and BADT is based on overall loading reductions through the use of the best attainable concentrations and the waste water flows from the lowest range of waste water flows as reported by the industry.

(10) Several commenters suggested flexible case by case handling of other load sources which were not addressed in the draft document. Other load sources included in the effluent guidelines and standards of performance include cooling tower blowdown, water treatment blowdown, and auxiliary facilities such as laboratories.

(11) Several commenters questioned the cost basis stating that capital, operating and other costs should have 1.5–2.5 and 3.C–5.0 multipliers applied respectively. The cost figures presented in the Draft Contractors Report are based on end-of-pipe cost data which came directly from industry. It was estimated that the costs presented are 20 percent of the data basis.

(12) A commenter questioned the placing of ABS/SAN in major grouping I. By analysis of the available data ABS/SAN was placed in major grouping II and appropriate changes to the guidelines and standards of performance were made.

(13) A commenter questioned the placing of Nylon 66 in grouping III. After further analysis of the available data no change was made. The use of polishing facilities, ponds, lagoons, etc., is con-

sidered practicable and is part of the basis for BPCTCA.

(14) A commenter suggested advanced treatment technology be applied for BPCTCA. No data basis or indication of the type of advanced treatment was made available to EPA by the reviewer. Various modes of advanced treatment technologies such as activated carbon adsorption, media filtration, solvent extraction, evaporation, etc. were considered for BPCTCA but by review of the available data basis and other considerations outlined in the Act, they were determined to be not applicable for BPCTCA in this industry. Various advanced treatment technologies were applied to determine BATEA and BADT.

(15) Several commenters questioned the treatability basis used in the contractor's draft report for the major grouping. The reference to treatability as used for grouping the contractor's draft report was incorrect and was changed to attainable effluent concentration as demonstrated by plastics and synthetics plants using technologies which are defined herein as the basis for best practicable control technology currently available.

(16) Comments have been received concerning the use of a range of effluent values in the Plastics and Synthetics point source category.

In this regard, EPA has considered and consulted with other parties on whether or not effluent limitations should be set forth, either as a range of numbers or as specific limitations with allowance for variations, upwards or downwards, within specific parameters. The commenter suggests that the use of a range of values would allow the permitting agency to further recognize the considerations set forth in the Act.

We specifically request comments and data on this point; and, if alternatives to this regulation are offered (in accordance with the above request), we further request full background data and documentation to enable EPA to make a further judgment on the alternatives.

Interested persons may participate in this rulemaking by submitting written comments in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman. Comments on all aspects of the proposed regulations are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which is available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data is essential to the development of the regulations. In the event comments address the approach taken by the agency in establishing an effluent limitation guideline or standard of performance, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 301, 304 (b), 306 and 307 of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street SW., Washington, D.C. A copy of preliminary draft contractor reports, the Development Document and economic study referred to above and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received by November 5, 1973 will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Dated October 1, 1973.

RUSSELL E. TRAIN,
Administrator.

Subpart A—Polyvinyl Chloride Subcategory

Sec.
416.10 Applicability; description of the polyvinyl chloride subcategory.
416.11 Specialized definitions.
416.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.14 Standards of performance for new sources.
416.15 Pretreatment standards for new sources.

Subpart B—Acrylonitrile-Butadiene-Styrene (ABS) and Styrene-Acrylonitrile (SAN) Resin Copolymers Subcategory

416.20 Applicability; description of the acrylonitrile butadiene-styrene (ABS) and styrene-acrylonitrile (SAN) resin copolymer subcategory.
416.21 Specialized definitions.
416.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.24 Standards of performance for new sources.
416.25 Pretreatment standards for new sources.

Subpart C—Polyvinyl Acetate Subcategory

416.30 Applicability; description of the polyvinyl acetate subcategory.
416.31 Specialized definitions.
416.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.34 Standards of performance for new sources.
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416.35 Pretreatment standards for new sources.

Subpart D—Polystyrene Subcategory

413.40 Applicability; description of the polystyrene subcategory.
416.41 Specialized definitions.
416.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.44 Standards of performance for new sources.
416.45 Pretreatment standards for new sources.

Subpart E—Polypropylene Subcategory

416.50 Applicability; description of the polypropylene subcategory.
416.51 Specialized definitions.
416.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.54 Standards of performance for new sources.
416.55 Pretreatment standards for new sources.

Subpart F—Polyethylene Subcategory

416.60 Applicability; description of the polyethylene subcategory.
416.61 Specialized definitions.
416.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.64 Standards of performance for new sources.
416.65 Pretreatment standards for new sources.

Subpart G—Cellophane Subcategory

416.70 Applicability; description of the cellophane subcategory.
416.71 Specialized definitions.
416.72 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.73 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.74 Standards of performance for new sources.
416.75 Pretreatment standards for new sources.

Subpart H—Rayon Subcategory

416.80 Applicability; description of the rayon subcategory.
416.81 Specialized definitions.
416.82 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

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416.83 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.84 Standards of performance for new sources.
416.85 Pretreatment standards for new sources.

Subpart I—Polyester Subcategory

416.90 Applicability; description of the polyester subcategory.
416.91 Specialized definitions.
416.92 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.93 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.94 Standards of performance for new sources.
416.95 Pretreatment standards for new sources.

Subpart J—Nylon 66 Subcategory

416.100 Applicability; description of the nylon 66 subcategory.
416.101 Specialized definitions.
416.102 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.103 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.104 Standards of performance for new sources.
416.105 Pretreatment standards for new sources.

Subpart K—Nylon 6 Subcategory

416.110 Applicability; description of the nylon 6 subcategory.
416.111 Specialized definitions.
416.112 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.113 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.114 Standards of performance for new sources.
416.115 Pretreatment standards for new sources.

Subpart L—Cellulose Acetate Subcategory

416.120 Applicability; description of the cellulose acetate subcategory.
416.121 Specialized definitions.
416.122 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.123 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.124 Standards of performance for new sources.
416.125 Pretreatment standards for new sources.

Subpart M—Epoxy Resins Subcategory

416.130 Applicability; description of the epoxy resins subcategory.
416.131 Specialized definitions.
416.132 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.133 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.134 Standards of performance for new sources.
416.135 Pretreatment standards for new sources.

Subpart N—Phenolic Resins Subcategory

416.140 Applicability; description of the phenolic resins subcategory.
416.141 Specialized definitions.
416.142 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.143 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.144 Standards of performance for new sources.
416.145 Pretreatment standards for new sources.

Subpart O—Urea Resins Subcategory

416.150 Applicability; description of the urea resins subcategory.
416.151 Specialized definitions.
416.152 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.153 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.154 Standards of performance for new sources.
416.155 Pretreatment standards for new sources.

Subpart P—Melamine Resins Subcategory

416.160 Applicability; description of the melamine resins subcategory.
416.161 Specialized definitions.
416.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.163 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.164 Standards of performance for new sources.
416.165 Pretreatment standards for new sources.

Subpart Q—Acrylics Subcategory

416.170 Applicability; description of the acrylics subcategory.
416.171 Specialized definitions.
416.172 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
416.173 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
416.174 Standards of performance for new sources.
416.175 Pretreatment standards for new sources.

Subpart A—Polyvinyl Chloride Manufacturing Product Subcategory

§ 416.10 Applicability; description of the polyvinyl chloride subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of vinyl chloride by bulk polymerization, or suspension polymerization, or emulsion polymerization and associated processing to manufacture polyvinyl chloride.

§ 416.11 Specialized definitions.

For the purposes of this Subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyvinyl chloride by the suspension polymerization process after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	Effluent Limitations
BOD5	Maximum for any one day 0.44 kg/kkg of product (0.44 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.31 kg/kkg of product (0.31 lb/1,000 lb).
COD	Maximum for any one day 4.4 kg/kkg of product (4.4 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 3.1 kg/kkg of product (3.1 lb/1,000 lb).
SS	Maximum for any one day 0.88 kg/kkg of product (0.88 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.62 kg/kkg of product (0.62 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyvinyl chloride by the emulsion polymerization process after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	Effluent Limitations
BOD5	Maximum for any one day 0.16 kg/kkg of product (0.16 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.11 kg/kkg of product (0.11 lb/1,000 lb).
COD	Maximum for any one day 1.6 kg/kkg of product (1.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.1 kg/kkg of product (1.1 lb/1,000 lb).
SS	Maximum for any one day 0.32 kg/kkg of product (0.32 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.22 kg/kkg of product (0.22 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyvinyl chloride by the bulk polymerization process after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	Effluent Limitations
BOD5	Maximum for any one day 0.076 kg/kkg of product (0.076 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.053 kg/kkg of product (0.053 lb/1,000 lb).
COD	Maximum for any one day 0.76 kg/kkg of product (0.76 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.53 kg/kkg of product (0.53 lb/1,000 lb).
SS	Maximum for any one day 0.15 kg/kkg of product 0.15 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.11 kg/kkg of product (0.11 lb/1,000 lb).

§ 416.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyvinyl chloride by the suspension polymerization process after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent Characteristic	Effluent Limitations
BOD5	Maximum for any one day 0.23 kg/kkg of product (0.23 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.11 kg/kkg of product (0.11 lb/1,000 lb).
COD	Maximum for any one day 1.5 kg/kkg of product (1.5 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.75 kg/kkg of product (0.75 lb/1,000 lb).
SS	Maximum for any one day 0.15 kg/kkg of product (0.15 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.075 kg/kkg of product (0.075 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyvinyl chloride by the emulsion polymerization process after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent Characteristic	Effluent Limitations
BOD5	Maximum for any one day 0.08 kg/kkg of product (0.08 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.040 kg/kkg of product (0.040 lb/1,000 lb).
COD	Maximum for any one day 0.54 kg/kkg of product (0.54 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.27 kg/kkg of product (0.27 lb/1,000 lb).
SS	Maximum for any one day 0.054 kg/kkg of product (0.054 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.027 kg/kkg of product (0.027 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyvinyl chloride by the bulk polymerization process after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent Characteristic	Effluent Limitations
BOD5	Maximum for any one day 0.075 kg/kkg of product (0.075 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.038 kg/kkg of product (0.038 lb/1,000 lb).
COD	Maximum for any one day 0.50 kg/kkg of product (0.50 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.25 kg/kkg of product (0.25 lb/1,000 lb).
SS	Maximum for any one day 0.050 kg/kkg of product (0.050 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.025 kg/kkg of product (0.025 lb/1,000 lb).

§ 416.14 Standards of performance for new sources.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyvinyl chloride by the suspension polymerization process reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent Characteristic	Effluent Limitations
BOD5	Maximum for any one day 0.23 kg/kkg of product (0.23 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.110 kg/kkg of product (0.110 lb/1,000 lb).

Effluent characteristic	*Effluent limitations*
COD	Maximum for any one day 2.2 kg/kkg of product (2.2 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.1 kg/kkg of product (1.1 lb/1,000 lb).
SS	Maximum for any one day 0.15 kg/kkg of product (0.15 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.075 kg/kkg of product (0.075 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyvinyl chloride by the emulsion polymerization process reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
BOD5	Maximum for any one day 0.075 kg/kkg of product (0.075 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.038 kg/kkg of product (0.038 lb/1,000 lb).
COD	Maximum for any one day 0.76 kg/kkg of product (0.76 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.38 kg/kkg of product (0.38 lb/1,000 lb).
SS	Maximum for any one day 0.050 kg/kkg of product (0.050 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.025 kg/kkg of product (0.025 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyvinyl chloride by the bulk polymerization proces sreflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
BOD5	Maximum for any one day 0.080 kg/kkg of product (0.080 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.040 kg/kkg of product (0.040 lb/1,000 lb).
COD	Maximum for any one day 0.80 kg/kkg of product (0.80 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.40 kg/kkg of product (0.40 lb/1,000 lb).
SS	Maximum for any one day 0.054 kg/kkg of product (0.054 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.027 kg/kkg of product (0.027 lb/1,000 lb).

§ 416.15 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the polyvinyl chloride manufacturing subcategory which is an industrial user of a publicly owned treatment works, (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.14 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart B—Acrylonitrile-Butadiene-Styrene (ABS) and Styrene-Acrlyonitrile (SAN) Resin Copolymers Subcategory

§ 416.20 Applicability; description of the acrylonitrile-butadiene-styrene (ABS) and styrene-acrylonitrile (SAN) resin copolymers.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of acrylonitrile, butadiene and styrene and associated processing to manufacture ABS resins and the polymerization reaction of styrene and acrylonitrile and associated processing to manufacture SAN resins.

§ 416.21 Sterilized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
BOD5	Maximum for any one day 0.98 kg/kkg of product (0.98 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.63 kg/kkg of product (0.63 lb/1,000 lb).
COD	Maximum for any one day 9.8 kg/kkg of product (9.8 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 6.3 kg/kkg of product (6.3 lb/1,000 lb).
SS	Maximum for any one day 1.05 kg/kkg of product (1.05 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.73 kg/kkg of product (0.73 lb/1,000 lb).
Total chromium.	Maximum for any one day 0.0088 kg/kkg of product (0.0088 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0044 kg/kkg of product (0.0044 lb/1,000 lb).

§ 416.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 0.26 kg/kkg of product (0.26 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.13 kg/kkg of product (0.13 lb/1,000 lb).

Effluent characteristic	*Effluent limitations*
COD	Maximum for any one day 1.76 kg/kkg of product (1.76 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.88 kg/kkg of product (0.88 lb/1,000 lb).
SS	Maximum for any one day 0.176 kg/kkg of product (0.176 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.088 kg/kkg of product (0.088 lb/1,000 lb).
Total Chromium	Maximum for any one day. .0044 kg/kkg of product (.0044 lb/1000 lb) Maximum average of daily values for any period of thirty consecutive days .0022 kg/kkg of product (.0022 lb/1000 lb)

§ 416.24 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 0.26 kg/kkg of product (.26 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.13 kg/kkg of product (0.13 lb/1,000 lb).
COD	Maximum for any one day 2.6 kg/kkg of product (2.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.3 kg/kkg of product (1.3 lb/1,000 lb).
SS	Maximum for any one day 0.176 kg/kkg of product (0.176 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.083 kg/kkg of product (0.088 lb/1,000 lb).
Total chromium.	Maximum for any one day 0.0044 kg/kkg of product (0.0044 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0022 kg/kkg of product (0.0022 lb/1,000 lb).

§ 416.25 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the ABS/SAN manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.24 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart C—Polyvinyl Acetate Manufacturing Product Subcategory

§ 416.30 Applicability; description of the polyvinyl acetate subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of vinyl acetate and associated processing to manufacture polyvinyl acetate.

§ 416.31 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
BOD5	Maximum for any one day 0.26 kg/kkg of product (0.26 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.18 kg/kkg of product (0.18 lb/1,000 lb).
COD	Maximum for any one day 2.6 kg/kkg of product (2.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.8 kg/kkg of product (1.8 lb/1,000 lb).
SS	Maximum for any one day 0.52 kg/kkg of product (0.52 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.36 kg/kkg of product (0.36 lb/1,000 lb).

§ 416.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
BOD5	Maximum for any one day 0.13 kg/kkg of product (0.13 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.065 kg/kkg of product (0.065 lb/1,000 lb).
COD	Maximum for any one day 0.84 kg/kkg of product (0.84 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.42 kg/kkg of product (0.42 lb/1,000 lb).
SS	Maximum for any one day 0.084 kg/kkg of product (0.084 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.042 kg/kkg of product. (0.042 lb/1,000 lb).

§ 416.34 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
BOD5	Maximum for any one day 0.13 kg/kkg of product (0.13 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.065 kg/kkg of product (0.065 lb/1,000 lb).

Effluent characteristic	*Effluent limitations*
COD	Maximum for any one day 1.30 kg/kkg of product (1.30 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.65 kg/kkg of product (0.65 lb/1,000 lb).
SS	Maximum for any one day 0.084 kg/kkg of product (0.084 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.042 kg/kkg of product (0.042 lb/1,000 lb).

§ 416.35 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the polyvinyl acetate manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.34 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart D—Polystyrene Manufacturing Product Subcategory

§ 416.40 Applicability; description of the polystyrene subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of styrene by suspension polymerization or by bulk polymerization and associated processing to manufacture polystyrene.

§ 416.41 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polystyrene by the suspension polymerization process after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
BOD5	Maximum for any one day 0.28 kg/kkg of product (0.28 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.20 kg/kkg of product (0.20 lb/1,000 lb).
COD	Maximum for any one day 2.8 kg/kkg of product (2.8 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.0 kg/kkg of product (2.0 lb/1,000 lb).
SS	Maximum for any one day 0.56 kg/kkg of product (0.56 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.39 kg/kkg of product (0.39 lb/1,000 lb).
Total Chromium.	Maximum for any one day 0.0046 kg/kkg of product (0.0046 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0023 kg/kkg of product (0.0023 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polystyrene by the bulk polymerization process after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 0.050 kg/kkg of product (.050 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.035 kg/kkg of product (0.035 lb/1,000 lb).
COD	Maximum for any one day 0.50 kg/kkg of product (0.50 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.35 kg/kkg of product (0.35 lb/1,000 lb).
SS	Maximum for any one day 0.10 kg/kkg of product (0.10 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.07 kg/kkg of product (0.07 lb/1,000 lb).

§ 416.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polystyrene by the suspension polymerization process after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 0.14 kg/kkg of product (0.14 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.070 kg/kkg of product (0.070 lb/1,000 lb).
COD	Maximum for any one day 0.92 kg/kkg of product (0.92 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.46 kg/kkg of product (0.46 lb/1,000 lb).
SS	Maximum for any one day 0.092 kg/kkg of product (0.092 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.046 kg/kkg of product (0.046 lb/1,000 lb).
Total chromium.	Maximum for any one day 0.0024 kg/kkg of product (0.0024 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0012 kg/kkg of product (0.0012 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polystyrene by the bulk polymerization process after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 0.05 kg/kkg of product (0.05 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.025 kg/kkg of product (0.025 lb/1,000 lb).
COD	Maximum for any one day 0.34 kg/kkg of product (0.34 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.17 kg/kkg of product (0.17 lb/1,000 lb).

Effluent characteristic	*Effluent limitation*
SS	Maximum for any one day 0.034 kg/kkg of product (0.034 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.017 kg/kkg of product (0.017 lb/1,000 lb).

§ 416.44 Standards of performance for new sources.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polystyrene by the suspension polymerization process reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
POD5	Maximum for any one day 14 kg/kkg of product (0.14 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.07 kg/kkg of product (0.07 lb/1,000 lb).
COD	Maximum for any one day 1.4 kg/kkg of product (1.4 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.7 kg/kkg of product (0.7 lb/1,000 lb).
SS	Maximum for any one day 0.092 kg/kkg of product (0.092 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.046 kg/kkg of product (0.046 lb/1,000 lb).
Total chromium.	Maximum for any one day 0.0024 kg/kkg of product (0.0024 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0012 kg/kkg of product (0.0012 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polystyrene by the bulk polymerization process reflecting the greatest degree of effluent reduction achievable through the applicaton of the best available demonstrated control technology, processes, operating methods or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.050 kg/kkg of product (0.050 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.025 kg/kkg of product (0.025 lb/1,000 lb).
COD	Maximum for any one day 0.50 kg/kkg of product (0.50 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.25 kg/kkg of product (0.25 lb/1,000 lb).
SS	Maximum for any one day 0.034 kg/kkg of product (0.034 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.017 kg/kkg of product (0.017 lb/1,000 lb).

§ 416.45 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the polystyrene manufacturing subcategory which is an industrial user of a publicly owned treatment works, (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in section 416.44 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that polluant."

Subpart E—Polypropylene Subcategory

§ 416.50 Applicability; description of the polypropylene subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of propylene and associated processing to manufacture polypropylene.

§ 416.51 Specialized definitions.

For the purposes of this Subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand; (2) "COD" shall mean chemical oxygen demand; (3) "SS" shall mean total suspended unfilterable solids; (4) "kg" shall mean kilogram; (5) "kkg" shall mean one thousand kilograms; and (6) "lb" shall mean pound.

§ 416.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.52 kg/kkg of product (0.52 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.36 kg/kkg of product (0.36 lb/1,000 lb).
COD	Maximum for any one day 2.6 kg/kkg of product (2.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.8 kg/kkg of product (1.8 lb/1,000 lb).
SS	Maximum for any one day 1.0 kg/kkg of product (1.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.73 kg/kkg of product (0.73 lb/1,000 lb).

§ 416.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.26 kg/kkg of product (0.26 lb/1,000 lb). Maximum average or daily values for any period of thirty consecutive days 0.13 kg/kkg of product (0.13 lb/1,000 lb).
COD	Maximum for any one day 1.76 kg/kkg of product (1.76 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.88 kg/kkg of product (0.88 lb/1,000 lb).
SS	Maximum for any one day 0.18 kg/kkg of product (0.18 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.088 kg/kkg of product (0.088 lb/1,000 lb).

§ 416.54 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or

pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.26 kg/kkg of product (0.26 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.13 kg/kkg of product (0.13 lb/1,000 lb).
COD	Maximum for any one day 1.76 kg/kkg of product (1.76 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.88 kg/kkg of product (0.88 lb/1,000 lb).
SS	Maximum for any one day 0.18 kg/kkg of product (0.18 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.088 kg/kkg of product (0.088 lb/1,000 lb).

§ 416.55 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the polypropylene manufacturing subcategory which is an industrial user of a publicly owned treatment works, (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.54 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standards applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart F—Polyethylene Manufacturing Product Subcategory

§ 416.60 Applicability; description of the polyethylene subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization of ethylene and associated processing to manufacture low density polyethylene and the polymerization reaction of ethylene by the solvent process or by the polyform process to manufacture high density polyethylene.

§ 416.61 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand; (2) "COD" shall mean chemical oxygen demand; (3) "SS" shall mean total suspended unfilterable solids; (4) "kg" shall mean kilogram; (5) "kkg" shall means one thousand kilograms; and (6) "lb" shall mean pound.

§ 416.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of low density polyethylene after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.26 kg/kkg of product (0.26 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.18 kg/kkg of product (0.18 lb/1,000 lb).
COD	Maximum for any one day 2.6 kg/kkg of product (2.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.8 kg/kkg of product (1.8 lb/1,000 lb).
SS	Maximum for any one day 0.52 kg/kkg of product (0.52 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.36 kg/kkg of product (0.36 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of high density polyethylene by the solvent process after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.38 kg/kkg of product (0.38 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.27 kg/kkg of product (0.27 lb/1,000 lb).
COD	Maximum for any one day 3.8 kg/kkg of product (3.8 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.7 kg/kkg of product (2.7 lb/1,000 lb).
SS	Maximum for any one day 0.76 kg/kkg of product (0.76 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.53 kg/kkg of product (0.53 lb/1,000 lb).
Total Chromium.	Maximum for any one day 0.0062 kg/kkg of product (0.0062 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0031 kg/kkg of product (0.0031 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of high density polyetheylene by the polyform process after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.065 kg/kkg of product (0.065 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.045 kg/kkg of product (0.045 lb/1,000 lb).
COD	Maximum for any one day 0.64 kg/kkg of product (0.64 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.45 kg/kkg of product (0.45 lb/1,000 lb).
SS	Maximum for any one day 0.12 kg/kkg of product (0.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.09 kg/kkg of product (0.09 lb/1,000 lb).

§ 416.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of low density polyethylene after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 0.13 kg/kkg of product (0.13 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.065 kg/kkg of product (0.065 lb/1,000 lb).
COD	Maximum for any one day 0.84 kg/kkg of product (0.84 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.42 kg/kkg of product (0.42 lb/1,000 lb).
SS	Maximum for any one day 0.084 kg/kkg of product (0.084 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.042 kg/kkg of product (0.042 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of high density polyethylene by the solvent process after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 0.19 kg/kkg of product (0.19 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.095 kg/kkg of product (0.095 lb/1,000 lb).
COD	Maximum for any one day 1.26 kg/kkg of product (1.26 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.63 kg/kkg of product (0.63 lb/1,000 lb).
SS	Maximum for any one day 0.13 kg/kkg of product (0.13 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.063 kg/kkg of product (0.063 lb/1,000 lb).
Total Chrominum	Maximum for any one day 0.0032 kg/kkg of product (0.0032 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0016 kg/kkg of product (0.0016 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of high density polyethylene by the polyform process after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristics	*Effluent limitations*
BOD5	Maximum for any one day 0.065 kg/kkg of product (0.065 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.032 kg/kkg of product (0.032 lb/1,000 lb).
COD	Maximum for any one day 0.44 kg/kkg of product (0.44 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.22 kg/kkg of product (0.22 lb/1,000 lb).
SS	Maximum for any one day 0.044 kg/kkg of product (0.044 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.022 kg/kkg of product (0.022 lb/1,000 lb).

§ 416.64 Standards of performance for new sources.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of low density polyethylene reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent Characteristics	*Effluent Limitations*
BOD5	Maximum for any one day 0.13 kg/kkg of product (0.13 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.065 kg/kkg of product (0.065 lb/1,000 lb).
COD	Maximum for any one day 1.30 kg/kkg of product (1.30 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.65 kg/kkg of product (0.65 lb/1,000 lb).
SS	Maximum for any one day 0.084 kg/kkg of product (0.084 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.042 kg/kkg of product (0.042 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of high density polyethylene by the solvent process reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent Characteristics	*Effluent Limitations*
BOD5	Maximum for any one day 0.19 kg/kkg of product (0.19 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.095 kg/kkg of product (0.095 lb/1,000 lb).
COD	Maximum for any one day 1.90 kg/kkg of product (1.90 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.95 kg/kkg of product (0.95 lb/1,000 lb).
SS	Maximum for any one day 0.13 kg/kkg of product (0.13 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.063 kg/kkg of product (0.063 lb/1,000 lb).
Total chromium.	Maximum for any one day 0.0032 kg/kkg of product (0.0032 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0016 kg/kkg of product (0.0016 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufatcure of high density polyethylene by the polyform process reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 0.065 kg/kkg of product (0.065 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.032 kg/kkg of products (0.032 lb/1,000 lb).
COD	Maximum for any one day 0.64 kg/kkg of product (0.64 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.32 kg/kkg of product (0.32 lb/1,000 lb).
SS	Maximum for any one day 0.044 kg/kkg of product (0.044 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.022 kg/kkg of product (0.022 lb/1,000 lb).

§ 416.65 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the polyethylene manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.64 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart G—Cellophane Manufacturing Product Subcategory

§ 416.70 Applicability; description of the cellophane subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the processing of wood pulp to manufacture cellophane and associated processing.

§ 416.71 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.72 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
BOD5	Maximum for any one day 13.4 kg/kkg of product (13.4 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 8.6 kg/kkg of product (8.6 lb/1,000 lb).
COD	Maximum for any one day 134 kg/kkg of product (134 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 86 kg/kkg of product (86 lb/1,000 lb).
SS	Maximum for any one day 14.5 kg/kkg of product (14.5 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 10.2 kg/kkg of product (10.2 lb/1,000 lb).

§ 416.73 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent Characteristic	*Effluent Limitations*
BOD5	Maximum for any one day 3.6 kg/kkg of product (3.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.8 kg/kkg of product (1.8 lb/1,000 lb).
COD	Maximum for any one day 24 kg/kkg of product (24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 12 kg/kkg of product (12 lb/1,000 lb).
SS	Maximum for any one day 2.4 kg/kkg of product (2.4 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.2 kg/kkg of product (1.2 lb/1,000 lb).

§ 416.74 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent Characteristics	*Effluent Limitations*
BOD5	Maximum for any one day 3.6 kg/kkg of product (3.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.8 kg/kkg of product (1.8 lb/1,000 lb).
COD	Maximum for any one day 36 kg/kkg of product (36 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 18 kg/kkg of product (18 lb/1,000 lb).
SS	Maximum for any one day 2.4 kg/kkg of product (2.4 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.2 kg/kkg of product (1.2 lb/1,000 lb).

§ 416.75 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the cellophane manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.74 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart H—Rayon Subcategory

§ 416.80 Applicability; description of the rayon subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the processing of wood pulp to manufacture rayon and associated processing.

§ 416.81 Specialized definitions.

For the purposes of this Subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained

in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: "BOD5" shall mean five day biochemical oxygen demand; (2) "COD" shall mean chemical oxygen demand; (3) "SS" shall mean total suspended unfilterable solids; (4) "kg" shall mean kilogram; (5) "kkg" shall mean one thousand kilograms; and, (6) "lb" shall mean pound.

§ 416.82 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 7.6 kg/kkg of product (7.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 4.9 kg/kkg of product (4.9 lb/1,000 lb).
COD	Maximum for any one day 113 kg/kkg of product (113 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 72.9 kg/kkg of product (72.9 lb/1,000 lb).
SS	Maximum for any one day 8.0 kg/kkg of product (8.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 5.6 kg/kkg of product (5.6 lb/1,000 lb).
Zinc	Maximum for any one day 0.667 kg/kkg of product (0.667 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.534 kg/kkg of product (0.534 lb/1,000 lb).

§ 416.83 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 2.0 kg/kkg of product (2.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.0 kg/kkg of product (1.0 lb/1,000 lb).
COD	Maximum for any one day 13.4 kg/kkg of product (13.4 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 6.7 kg/kkg of product (6.7 lb/1,000 lb).
SS	Maximum for any one day 1.34 kg/kkg of product (1.34 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.67 kg/kkg of product (0.67 lb/1,000 lb).
Zinc	Maximum for any one day 0.133 kg/kkg of product (0.133 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days (0.0667 kg/kkg of product (0.0667 lb/1,000 lb).

§ 416.84 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 2.0 kg/kkg of product (2.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.0 kg/kkg of product (1.0 lb/1,000 lb).
COD	Maximum for any one day 30 kg/kkg of product (30 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 15 kg/kkg of product (15 lb/1,000 lb).
SS	Maximum for any one day 1.34 kg/kkg of product (1.34 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.67 kg/kkg of product (0.67 lb/1,000 lb).
Zinc	Maximum for any one day 0.133 kg/kkg of product (0.133 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0667 kg/kkg of product (0.0667 lb/1,000 lb).

§ 416.85 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the rayon manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.84 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment works shall be correspondingly reduced for that pollutant."

Subpart I—Polyester Manufacturing Product Subcategory

§ 416.90 Applicability; description of the polyester subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of dihydric alcohol and terephthalic acid or dimethyl terephtholate and associated processing to manufacture polyester resins and subsequent processing to manufacture polyester fibers.

§ 416.91 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.92 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyester resin or polyester fiber or polyester resin and fiber by continuous processing after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitation
BOD5	Maximum for any one day 1.06 kg/kkg of product (1.06 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.78 kg/kkg of product (0.78 lb/1,000 lb).
COD	Maximum for any one day 15.9 kg/kkg of product (15.9 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 11.7 kg/kkg of product (11.7 lb/1,000 lb).
SS	Maximum for any one day 0.48 kg/kkg of product (0.48 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.33 kg/kkg of product (0.33 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyester resin and fiber by batch processing after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitation
BOD5	Maximum for any one day 2.12 kg/kkg of fiber (2.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.56 kg/kkg of fiber (1.56 lb/1,000 lb).
COD	Maximum for any one day 31.8 kg/kkg of fiber (31.8 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 23.4 kg/kkg of fiber (23.4 lb/1,000 lb).
SS	Maximum for any one day 0.96 kg/kkg of fiber (0.96 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.66 kg/kkg of fiber (0.66 lb/1,000 lb).

§ 416.93 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyester resin or polyester fiber or polyester resin and fiber by continuous processing after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitation
BOD5	Maximum for any one day 0.12 kg/kkg of product (0.12 lb/1,000 lb).
Polyester Fiber.	Maximum average of daily values for any period of thirty consecutive days 0.060 kg/kkg of product (0.060 lb/1,000 lb).
COD	Maximum for any one day 0.80 kg/kkg of product (0.80 lb/1,000 lb).
SS	Maximum average of daily values for any period of thirty consecutive days 0.40 kg/kkg of product (0.40 lb/1,000 lb). Maximum for any one day 0.080 kg/kkg of product (0.080 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.040 kg/kkg of product (0.040 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyester resin and fiber by batch processing after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitation
BOD5	Maximum for any one day 0.24 kg/kkg of fiber (0.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.12 kg/kkg of fiber (0.12 lb/1,000 lb).
COD	Maximum for any one day 1.60 kg/kkg of fiber (1.60 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.80 kg/kkg of fiber (0.80 lb/1,000 lb).
SS	Maximum for any one day 0.160 kg/kkg of fiber (0.160 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.080 kg/kkg of fiber (0.080 lb/1,000 lb).

§ 416.94 Standards of performance for new sources.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyester resin or polyester fiber or polyester resin and fiber by continuous processing reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitation
BOD5	Maximum for any one day 0.12 kg/kkg of product (0.12 lb/1,000 lb).
COD	Maximum for any one day 1.80 kg/kkg of product (1.80 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.90 kg/kkg of product (0.90 lb/1,000 lb).
SS	Maximum for any one day 0.080 kg/kkg of product (0.080 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.040 kg/kkg of product (0.040 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of polyester resin and fiber by batch processing reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitation
BOD5	Maximum for any one day 0.24 kg/kkg of fiber (0.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.12 kg/kkg of fiber (0.12 lb/1,000 lb).
COD	Maximum for any one day 3.0 kg/kkg of fiber (3.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.8 kg/kkg of fiber (1.8 lb/1,000 lb).
SS	Maximum for any one day 0.16 kg/kkg of fiber (0.16 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.08 kg/kkg of product (0.08 lb/1,000 lb).

§ 416.95 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the polyester manufacturing subcategory which is an industrial user of a publicly owned treatment works and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a

major contributing industry shall be the standard of performance for new sources specified in § 416.94 of this title: provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart J—Nylon 66 Manufacturing Product Subcategory

§ 416.100 Applicability; description of the nylon 66 subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of hexamethylene diamine and adipic acid and associated processing to manufacture nylon 66 resin and/or fiber.

§ 416.101 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.102 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 66 resin after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.90 kg/kkg of product (0.90 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.66 kg/kkg of product (0.66 lb/1,000 lb).
COD	Maximum for any one day 4.5 kg/kkg of product (4.5 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 3.3 kg/kkg of product (3.3 lb/1,000 lb).
SS	Maximum for any one day 0.40 kg/kkg of product (0.40 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.28 kg/kkg of product (0.28 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 66 fiber after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.79 kg/kkg of product (0.79 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.58 kg/kkg of product (0.58 lb/1,000 lb).
COD	Maximum for any one day 3.94 kg/kkg of product (3.94 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.95 kg/kkg of product (2.95 lb/1,000 lb).
SS	Maximum for any one day 0.35 kg/kkg of product (0.35 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.25 kg/kkg of product (0.25 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 66 resin and fiber after application of best practicable control technology currently available by a point source subject to these provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 1.69 kg/kkg of fiber (1.69 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.24 kg/kkg of fiber (1.24 lb/1,000 lb).
COD	Maximum for any one day 8.44 kg/kkg of fiber (8.44 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 6.25 kg/kkg of fiber (6.25 lb/1,000 lb).
SS	Maximum for any one day 0.75 kg/kkg of fiber (0.75 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.53 kg/kkg of fiber (0.53 lb/1,000 lb).

§ 416.103 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 66 resin after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.10 kg/kkg of product (0.10 lb/1,000 lb.) Maximum average of daily values for any period of thirty consecutive days 0.050 kg/kkg of product (0.050 lb/1,000 lb).
COD	Maximum for any one day 0.66 kg/kkg of product (0.66 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.33 kg/kkg of product (0.33 lb/1,000 lb).
SS	Maximum for any one day 0.066 kg/kkg of product (0.066 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.033 kg/kkg of product (0.033 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 66 fiber after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.088 kg/kkg of product (0.088 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.44 kg/kkg of product (0.44 lb/1,000 lb).
COD	Maximum for any one day 0.58 kg/kkg of product (0.58 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.29 kg/kkg of product (0.29 lb/1,000 lb).
SS	Maximum for any one day 0.058 kg/kkg of product (0.058 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.029 kg/kkg of product (0.029 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 66 resin and fiber after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.188 kg/kkg of fiber (0.188 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.094 kg/kkg of fiber (0.094 lb/1,000 lb).

Effluent characteristic	*Effluent limitation*
COD	Maximum for any one day 1.24 kg/kkg of fiber (1.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.62 kg/kkg of fiber (0.62 lb/1,000 lb).
SS	Maximum for any one day 0.124 kg/kkg of fiber (0.124 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.062 kg/kkg of fiber (0.062 lb/1,000 lb).

§ 416.104 Standards of performance for new sources.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 66 resin reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.10 kg/kkg of product (0.10 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg of product (0.05 lb/1,000 lb).
COD	Maximum for any one day 0.66 kg/kkg of product (0.66 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.33 kg/kkg of product (0.33 lb/1,000 lb).
SS	Maximum for any one day 0.066 kg/kkg of product (0.066 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.033 kg/kkg of product (0.033 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutant or pollutant properties which may be discharged from the manufacture of Nylon 66 fiber reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.088 kg/kkg of product (0.088 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.044 kg/kkg of product (0.044 lb/1,000 lb).
COD	Maximum for any one day 0.58 kg/kkg of product (0.58 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.29 kg/kkg of product (0.29 lb/1,000 lb).
SS	Maximum for any one day 0.058 kg/kkg of product (0.058 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.029 kg/kkg of product (0.029 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutant or pollutant properties which may be discharged from the manufacture of Nylon 66 resin and fiber reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.188 kg/kkg of fiber (0.188 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.094 kg/kkg of fiber (0.094 lb/1,000 lb).
COD	Maximum for any one day 1.24 kg/kkg of fiber (1.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.62 kg/kkg of fiber (0.62 lb/1,000 lb).
SS	Maximum for any one day 0.124 kg/kkg of fiber (0.124 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.062 kg/kkg of fiber (0.062 lb/1,000 lb).

§ 416.105 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the nylon 66 manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.10 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart K—Nylon 6 Manufacturing Product Subcategory

§ 416.110 Applicability; description of the Nylon 6 subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the polymerization reaction of caprolactam and associated processing to manufacture nylon 6 resin and/or fiber.

§ 416.111 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall means: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.112 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 6 resin after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 5.06 kg/kkg of product (5.06 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 3.71 kg/kkg of product (3.71 lb/1,000 lb).
COD	Maximum for any one day 50.1 kg/kkg of product (50.1 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 37.1 kg/kkg of product (37.1 lb/1,000 lb).
SS	Maximum for any one day 2.25 kg/kkg of product (2.25 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.58 kg/kkg of product (1.58 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 6 fiber after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 2.58 kg/kkg of product (2.58 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.90 kg/kkg of product (1.90 lb/1,000 lb).
COD	Maximum for any one day 25.8 kg/kkg of product (25.8 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 19.0 k/kkg of product (19.0 lb/1,000 lb).
SS	Maximum for any one day 1.15 kg/kkg of product (1.15 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.80 kg/kkg of product (0.80 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 6 resin and fiber after application of best practicable control technology currently available by a point source subject to these provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 7.64 kg/kkg of fiber (7.64 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 5.61 kg/kkg of fiber (5.61 lb/1,000 lb).
COD	Maximum for any one day 76.4 kg/kkg of fiber (76.4 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 56.1 k/kkg of fiber (56.1 lb/1,000 lb).
SS	Maximum for any one day 3.40 kg/kkg of fiber (3.40 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.38 kg/kkg of fiber (2.38 lb/1,000 lb).

§ 416.113 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 6 resin after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.56 kg/kkg of product (0.56 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.28 kg/kkg of product (0.28 lb/1,000 lb).
COD	Maximum for any one day 3.8 kg/kkg of product (3.8 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.9 kg/kkg of product (1.9 lb/1,000 lb).
SS	Maximum for any one day 0.38 kg/kkg of product (0.38 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.19 kg/kkg of product (0.19 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacturing of Nylon 6 fiber after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.30 kg/kkg of product (0.30 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.15 kg/kkg of product (0.15 lb/1,000 lb).
COD	Maximum for any one day 2.0 kg/kkg of product (2.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.0 kg/kkg of product (1.0 lb/1,000 lb).
SS	Maximum for any one day 0.20 kg/kkg of product (0.20 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.10 kg/kkg of product (0.10 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 6 resin and fiber after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.86 kg/kkg of fiber (0.86 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.43 kg/kkg of fiber (0.43 lb/1,000 lb).
COD	Maximum for any one day 5.8 kg/kkg of fiber (5.8 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.9 kg/kkg of fiber (2.9 lb/1,000 lb).
SS	Maximum for any one day 0.58 kg/kkg of fiber (0.58 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.29 kg/kkg of fiber (0.29 lb/1,000 lb).

§ 416.114 Standards of performance for new sources.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 6 resin reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.56 kg/kkg of product (0.56 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.28 kg/kkg of product (0.28 lb/1,000 lb).
COD	Maximum for any one day 5.6 kg/kkg of product (5.6 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.8 kg/kkg of product (2.8 lb/1,000 lb).
SS	Maximum for any one day 0.38 kg/kkg of product (0.38 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.19 kg/kkg of product (0.19 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 6 fiber reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.30 kg/kkg of product (0.30 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.15 kg/kkg of product (0.15 lb/1,000 lb).

Effluent characteristic	*Effluent limitation*
COD	Maximum for any one day 3.0 kg/kkg of product (3.0 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 1.5 kg/kkg of product (1.5 lb/1,000 lb).
SS	Maximum for any one day 0.20 kg/kkg of product (0.20 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.10 kg/kkg of product (0.10 lb/1,000 lb).

(c) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of Nylon 6, resin and fiber reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.86 kg/kkg of fiber (0.86 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.43 kg/kkg of fiber (0.43 lb/1,000 lb).
COD	Maximum for any one day 8.6 kg/kkg of fiber (8.6 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 4.3 kg/kkg of fiber (4.3 lb/1,000 lb).
SS	Maximum for any one day (0.58 kg/kkg of fiber (0.58 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.29 kg/kkg of fiber (0.29 lb/1,000 lb).

§ 416.115 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the Nylon 6 manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in 2 8.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.114 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart L—Cellulose Acetate Manufacturing Product Subcategory

§ 416.120 Applicability; description of the cellulose acetate subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the processing of wood pulp with acetic acid and acetic anhydride and associated processing to manufacture cellulose acetate fibers and/or resins.

§ 416.121 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.122 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of cellulose acetate resin and fiber after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 11.24 kg/kkg of fiber (11.24 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 8.24 kg/kkg of fiber (8.24 lb/1,000 lb).
COD	Maximum for any one day 112.4 kg/kkg of fiber (112.4 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 82.4 kg/kkg of fiber (82.4 lb/1,000 lb).
SS	Maximum for any one day 5.00 kg/kkg of fiber (5.00 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 3.50 kg/kkg of fiber (3.50 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of cellulose acetate resin or fiber after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 5.62 kg/kkg of product (5.62 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 4.12 kg/kkg of product (4.12 lb/1,000 lb).
COD	Maximum for any one day 56.2 kg/kkg of product (56.2 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 41.2 kg/kkg of product (41.2 lb/1,000 lb).
SS	Maximum for any one day 2.50 kg/kkg of product (2.50 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 1.75 kg/kkg of product (1.75 lb/1,000 lb).

§ 416.123 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of cellulose acetate resin and fiber after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 1.28 kg/kkg of fiber (1.28 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.64 kg/kkg of fiber (0.64 lb/1,000 lb).
COD	Maximum for any one day 8.4 kg/kkg of fiber (8.4 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 4.2 kg/kkg of fiber (4.2 lb/1,000 lb).
SS	Maximum for any one day 0.84 kg/kkg of fiber (0.84 lb/1,000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.42 kg/kkg of fiber (0.42 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of cellulose acetate resin or fiber after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.63 kg/kkg of product (0.63 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.32 kg/kkg of product (0.32 lb/1,000 lb).
COD	Maximum for any one day 4.2 kg/kkg of product (4.2 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.1 kg/kkg of product (2.1 lb/1,000 lb).
SS	Maximum for any one day 0.42 kg/kkg of product (0.42 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.21 kg/kkg of product (0.21 lb/1,000 lb).

§ 416.124 Standards of performance for new sources.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of cellulose acetate resin and fiber reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 1.28 kg/kkg of fiber (1.28 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.64 kg/kkg of fiber (0.64 lb/1,000 lb).
COD	Maximum for any one day 12.8 kg/kkg of fiber (12.8 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 6.4 kg/kkg of fiber (6.4 lb/1,000 lb).
SS	Maximum for any one day 0.84 kg/kkg of fiber (0.84 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.42 kg/kkg of fiber, 0.42 lb/1,000 lb).

(b) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged from the manufacture of cellulose acetate resin or fiber reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.63 kg/kkg of product (0.63 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.32 kg/kkg of product (0.32 lb/1,000 lb).
COD	Maximum for any one day 6.4 kg/kkg of product (6.4 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 3.2 kg/kkg of product (3.2 lb/1,000 lb).
SS	Maximum for any one day 0.42 kg/kkg of product (0.42 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.21 kg/kkg of product (0.21 lb/1,000 lb).

§ 416.125 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the cellulose acetate resin or fiber manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standards set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.124 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart M—Epoxy Resins Manufacturing Product Subcategory

§ 416.130 Applicability; description of the epoxy resins subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the reaction between epichlorohydiun and bisphenol A and/or other reactants which create an epoxy group within the resin and associated processing to manufacture epoxy resins.

§ 416.131 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.132 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.49 kg/kkg of product (0.49 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.36 kg/kkg of product (0.36 lb/1,000 lb).
COD	Maximum for any one day 2.45 kg/kkg of product (2.45 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.80 kg/kkg of product (0.0018 lb/1,000 lb).
SS	Maximum for any one day 0.22 kg/kkg of product (0.22 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.15 kg/kkg of product (0.15 lb/1,000 lb).
Phenolic compounds.	Maximum for any one day 0.0036 kg/kkg of product (0.0036 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0018 kg/kkg of product (1.80 lb/1,000 lb).

§ 416.133 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the

best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.11 kg/kkg of product (0.11 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.055 kg/kkg of product (0.055 lb/1,000 lb).
COD	Maximum for any one day 0.72 kg/kkg of product (0.72 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.36 kg/kkg of product (0.36 lb/1,000 lb).
SS	Maximum for any one day 0.072 kg/kkg of product (0.072 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.036 kg/kkg of product (0.036 lb/1,000 lb).
Phenolic compounds.	Maximum for any one day 0.00072 kg/kkg of product (0.00072 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.00036 kg/kkg of product (0.00036 lb/1,000 lb).

§ 416.134 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD	Maximum for any one day 0.11 kg/kkg of product (0.11 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.055 kg/kkg of product (0.055 lb/1,000 lb).
COD	Maximum for any one day 0.72 kg/kkg of product (0.72 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.36 kg/kkg of product (0.36 lb/1,000 lb).
SS	Maximum for any one day 0.072 kg/kkg of product (0.072 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.036 kg/kkg of product (0.036 lb/1,000 lb).
Phenolic compounds.	Maximum for any one day 0.00072 kg/kkg of product (0.00072 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.00036 kg/kkg of product (0.00036 lb/1,000 lb).

§ 416.135 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the epoxy resins manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.134 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart N—Phenolic Resins Manufacturing Product Subcategory

§ 416.140 Applicability; description of the phenolic resins subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the reaction of phenol or a substituted phenol such as creosol or resorcinol and an aldehyde such as formaldehyde or acetaldehyde and associated processing to manufacture phenolic resins.

§ 416.141 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.142 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 1.66 kg/kkg of product (1.66 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.22 kg/kkg of product (1.22 lb/1,000 lb).
COD	Maximum for any one day 8.30 kg/kkg of product (8.30 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 6.10 kg/kkg of product (6.10 lb/1,000 lb).
SS	Maximum for any one day 0.74 kg/kkg of product (0.74 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.52 kg/kkg of product (0.52 lb/1,000 lb).
Phenolic, compounds.	Maximum for any one day 0.012 kg/kkg of product (0.012 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0062 kg/kkg of product (0.0062 lb/1,000 lb).

§ 416.143 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.18 kg/kkg of product (0.18 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.090 kg/kkg of product (0.090 lb/1,000 lb).
COD	Maximum for any one day 1.24 kg/kkg of product (1.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.62 kg/kkg of product (0.62 lb/1,000 lb).
SS	Maximum for any one day 0.12 kg/kkg of product (0.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.062 kg/kkg of product (0.062 lb/1,000 lb).
Phenolic, compounds.	Maximum for any one day 0.0012 kg/kkg of product (0.0012 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.00062 kg/kkg of product (0.00062 lb/1,000 lb).

§ 416.144 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.18 kg/kkg of product (0.18 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.090 kg/kkg of product (0.090 lb/1,000 lb).
COD	Maximum for any one day 1.24 kg/kkg of product (1.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.62 kg/kkg of product (0.62 lb/1,000 lb).
SS	Maximum for any one day 0.12 kg/kkg of product (0.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.062 kg/kkg of product (0.062 lb/1,000 lb).
Phenolic compounds.	Maximum for any one day 0.0012 kg/kkg of product (0.0012 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.00062 kg/kkg of product (0.00062 lb/1,000 lb).

§ 416.145 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the phenolic resins manufacturing subcategory which is an industrial user of a publically owned treatment works, (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.144 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart O—Urea Resins Manufacturing Product Subcategory

§ 416.150 Applicability; description of the urea resins subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the reaction of urea and formaldehyde and associated processing to manufacture urea resins.

§ 416.151 Specialized definitions.

For the purposes of this Subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms (6) "lb" shall mean pound.

§ 416.152 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.25 kg/kkg of product (0.25 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.18 kg/kkg of product (0.18 lb/1,000 lb).
COD	Maximum for any one day 1.25 kg/kkg of product (1.25 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.90 kg/kkg of product (0.90 lb/1,000 lb).
SS	Maximum for any one day 0.11 kg/kkg of product (0.11 lb/1,000 lb). Maximum average of daily values for any period of thirty consectutive days 0.077 kg/kkg of product (0.077 lb/1,000 lb).

§ 416.153 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.055 kg/kkg of product (0.055 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.028 kg/kkg of product (0.028 lb/1,000 lb).
COD	Maximum for any one day 0.36 kg/kkg of product (0.36 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.18 kg/kkg of product (0.18 lb/1,000 lb).
SS	Maximum for any one day 0.036 kg/kkg of product (0.036 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.018 kg/kkg of product (0.018 lb/1,000 lb).

§ 416.154 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.055 kg/kkg of product (0.055 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.028 kg/kkg of product (0.028 lb/1,000 lb).
COD	Maximum for any one day 0.36 kg/kkg of product (0.36 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.18 kg/kkg of product (0.18 lb/1,000 lb).
SS	Maximum for any one day 0.036 kg/kkg of product (0.36 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.018 kg/kkg of product (0.018 lb/1,000 lb).

§ 416.155 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the urea resins manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in section 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.154 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart P—Melamine Resins Manufacturing Product Subcategory

§ 416.160 Applicability; description of the melamine resins subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the reaction melamine and formaldehyde and associated processing to manufacture melamine resins.

§ 416.161 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand (2) "COD" shall mean chemical oxygen demand (3) "SS" shall mean total suspended unfilterable solids (4) "kg" shall mean kilogram (5) "kkg" shall mean one thousand kilograms and (6) "lb" shall mean pound.

§ 416.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.18 kg/kkg of product (0.18 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.13 kg/kkg of product (0.13 lb/1,000 lb).
COD	Maximum for any one day 0.90 kg/kkg of product (0.90 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.65 kg/kkg of product (0.65 lb/1,000 lb).
SS	Maximum for any one day 0.08 kg/kkg of product (0.08 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.056 kg/kkg of product (0.056 lb/1,000 lb).

§ 416.163 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.040 kg/kkg of product (0.040 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.020 kg/kkg of product (0.020 lb/1,000 lb).
COD	Maximum for any one day 0.26 kg/kkg of product (0.026 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.13 kg/kkg of product (0.13 lb/1,000 lb).
SS	Maximum for any one day 0.026 kg/kkg of product (0.26 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.013 kg/kkg of product (0.013 lb/1,000 lb).

§ 416.164 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.04 kg/kkg of product (0.04 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.02 kg/kkg of product (0.02 lb/1,000 lb).
COD	Maximum for any one day 0.26 kg/kkg of product (0.26 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.13 kg/kkg of product (0.13 lb/1,000 lb).
SS	Maximum for any one day 0.026 kg/kkg of product (0.026 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.013 kg/kkg of product (0.013 lb/1,000 lb).

§ 416.165 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the melamine resins manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.164 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart Q—Acrylics Manufacturing Product Subcategory

§ 416.170 Applicability; description of the acrylics subcategory.

The provisions of this subpart are applicable to the discharges of process waste water pollutants and other waste water pollutants resulting from the acrylics polymerization reaction of acrylonitrile and associated processing and the copolymerization reaction of acrylonitrile and vinylidene choloride and/or vinyl chloride to manufacture acrylic resins and fibers.

§ 416.171 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product of finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) The term "other waste water pollutants" shall mean pollutants contained in cooling tower and utility blowdowns and from auxiliary facilities such as laboratories and others.

(d) The following abbreviations shall mean: (1) "BOD5" shall mean five day biochemical oxygen demand; (2) "COD" shall mean chemical oxygen demand; (3) "SS" shall mean total suspended unfilterable solids; (4) "kg" shall mean kilogram; (5) "kkg" shall mean one thousand kilograms; and (6) "lb" shall mean pound.

§ 416.172 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 3.75 kg/kkg of product (3.75 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.75 kg/kkg of product (2.75 lb/1,000 lb).
COD	Maximum for any one day 18.8 kg/kkg of product (18.8 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 13.8 kg/kkg of product (13.8 lb/1,000 lb).
SS	Maximum for any one day 1.0 kg/kkg of product (1.0 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.70 kg/kkg of product (0.70 lb/1,000 lb).
Phenolic compounds.	Maximum for any one day 0.017 kg/kkg of product (0.017 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0083 kg/kkg of product (0.0083 lb/1,000 lb).

§ 416.173 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.25 kg/kkg of product (0.25 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.125 kg/kkg of product (0.125 lb/1,000 lb).
COD	Maximum for any one day 1.66 kg/kkg of product (1.66 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.83 kg/kkg of product (0.83 lb/1,000 lb).
SS	Maximum for any one day 0.17 kg/kkg of product (0.17 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.083 kg/kkg of product (0.083 lb/1,000 lb).
Phenolic Compounds.	Maximum for any one day 0.0017 kg/kkg of product (0.0017 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.00083 kg/kkg of product (0.00083 lb/1,000 lb).

§ 416.174 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 0.25 kg/kkg of product (0.25 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.125 kg/kkg of product (0.125 lb/1,000 lb).
COD	Maximum for any one day 1.66 kg/kkg of product (1.66 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.83 kg/kkg of product (0.83 lb/1,000 lb).
SS	Maximum for any one day 0.17 kg/kkg of product (0.17 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.083 kg/kkg of product (0.083 lb/1,000 lb).
Phenolic Compounds.	Maximum for any one day 0.0017 kg/kkg of product (0.0017 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.00083 kg/kkg of product (0.00083 lb/1,000 lb).

§ 416.175 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the acrylics manufacturing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 416.174 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

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[40 CFR Part 428]

EFFLUENT LIMITATIONS GUIDELINES FOR RUBBER TIRE MANUFACTURING AND PROCESSING

Notice of Proposed Rule-Making

Notice is hereby given that effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources set forth in tentative form below are proposed by the Environmental Protection Agency (EPA) for the older tire and inner tube manufacturing plants subcategory (Subpart A), newer tire and inner tube manufacturing plants subcategory (Subpart B), emulsion crumb rubber subcategory (Subpart C), solution crumb rubber subcategory (Subpart D), and latex rubber subcategory (Subpart E) of the rubber processing category of point sources pursuant to sections 301, 304 (b) and (c), 306(b) and 307(c) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b) and 1317(c); 86 Stat. 816 et seq.; Pub. L. 92-500) (the "Act").

(a) Legal authority.

(1) Existing point sources.

Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly

owned treatment works, which require the application of the best available technology economically achievable, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) of the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods and other alternatives. The regulations proposed herein set forth effluent limitations guidelines, pursuant to section 304 (b) of the Act, for the older tire and inner tube manufacturing plants subcategory (Subpart A), newer tire and inner tube manufacturing plants subcategory (Subpart B), emulsion crumb rubber subcategory (Subpart C), solution crumb rubber subcategory (Subpart D), and latex rubber subcategory (Subpart E) of the rubber processing category.

(2) New sources

Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306(b)(1)(B) of the Act requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to secton 306(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973, (38 FR 1624) a list of 27 source categories, including the rubber processing category. The regulations proposed herein set forth the standards of performance applicable to new sources for the older tire and inner tube manufacturing plants subcategory (Subpart A), newer tire and inner tube manufacturing plants subcategory (Subpart B), emulsion crumb rubber subcategory (Subpart C), solution crumb rubber subcategory (Subpart D), and latex rubber subcategory (Subpart E) of the rubber processing category.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. Sections 428.15, 428.25, 428.35, 428.45, and 428.55, proposed below, provide pretreatment standards for new sources within the older tire and inner tube manufacturing plants subcategory (Subpart A), newer tire and inner tube manufacturing plants subcategory (Subpart B), emlusion crumb rubber subcategory (Subpart C), solution crumb rubber subcategory (Subpart D), and latex rubber subcategory (Subpart E) of the rubber processing category of point sources.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under Section 306 of the Act. The report or Development Document referred to below provides, pursuant to section 304(c) of the Act, information on such processes, procedures or operating methods.

(b) Summary and Basis of Proposed Effluent Limitations Guidelines for Existing Sources and Standards of Performance and Pretreatment Standards for New Sources.

(1) General methodology.

The effluent limitations guidelines and standards of performance proposed herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations and standards are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents, and other factors require development of separate limitations and standards for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of (1) the source, flow, and volume of water used in the process employed and the sources of waste and waste waters in the operation; and (2) the constituents of all waste water. The constituents of the waste waters which should be subject to effluent limitations guidelines and standards of performance were identified.

The control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which are existent or capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological charactertistics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, limitations and reliability of each treatment and control technology were also identified. In addition, the non-water quality environmental impact, such as the effects of the application of such technologies upon other pollutions problems, including air, solid waste, noise, and radiation were identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available", "best available technology economically achievable" and the "best available demonstrated control technology, processes, operating methods, or other alternatives." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standards proposed for existing sources under Part 128 of this title. The bases for such standards are set forth in the FEDERAL REGISTER of July 19, 1973, 38 FR 19236. Except for section 128.133, the provisions of Part 128 are equally applicable to sources which would constitute "new sources" under section 306, if they were to discharge pollutants directly into navigable waters. That section provides a pretreatment standard for "incompatible pollutants" which requires application of the "best practicable control technology currently available," subject to an adjustment for amounts of pollutants removed by the publicly owned treatment works. Since the pretreatment standards proposed herein apply to new sources, §§ 428.15, 428.25, 428.35, 428.45, and 428.55 below amend section 128.133 to require application of the standard of performance for new sources rather than the "best practicable" standard applicable to existing sources under sections 301 and 304(b) of the Act.

(2) Summary of conclusions with respect to the older tire and inner tube manufacturing plants subcategory (Subpart A), newer tire and inner tube manufacturing plants subcategory (Subpart B), emulsion crumb rubber subcategory (Subpart C), solution crumb rubber subcategory (Subpart D), and latex rubber subcategory (Subpart E), of the rubber processing category of point sources.

(i) Categorization.

For the purpose of studying waste treatment and effluent limitations, the rubber processing category was divided into five discrete subcategories which coincide with a breakdown of the category based on distinct processing and product differences as outlined in the Development Document for the rubber processing category.

(1) Subpart A—Older Tire and Inner Tube Manufacturing Plant Subcategory: Although the older tire and inner tube plants (constructed prior to 1959) use

manufacturing processes similar or identical to newer plants, the higher raw waste loads and particularly the cost to isolate process waste water from nonprocess water form the basis for separate subcategorization.

(2) Subpart B—Newer Tire and Inner Tube Manufacturing Plant Subcategory: Newer tire and inner tube plants (constructed 1959 or after) tend to have lower raw waste loads than older plants and separate sewer lines for the various waste water streams within the plants. The cost to further isolate the process waste water from nonprocess waste water is estimated to be about $180,000 less than that for an older plant. These two factors are the basis for separate subcategorization.

(3) Subpart C Emulsion Crumb Rubber Subcategory: Emulsion polymerization is the traditional process for the production of synthetic rubber crumb. The process requires an aqueous medium to which are added the ingredients of the reaction, emulsifiers, catalysts activators, etc. The emulsified product is then coagulated with a combination of electrolyte and dilute acid to form the rubber crumb. Considerable quantities of waste water originate as the result of processing as well as from reactor cleaning, monomer stripping, crumb washing and dewatering and plant washdown. The raw waste loads from emulsion crumb rubber plants are significantly higher than solution crumb rubber plants, and lower than emulsion latex rubber plants so as to warrant separate subcategorization.

(4) Subpart D—Solution Crumb Rubber Subcategory: Solution polymerization is a nonaqueous process for the production of synthetic rubber crumb. The polymerization takes place in an organic solvent such as hexane and the crumb rubber is subsequently coagulated by the addition of hot water and vigorous agitation. The resultant crumb slurry passes through a series of steam stripping columns to remove remaining monomers and solvent. Up to the point of hot water coagulation and steam stripping the solution polymerization process is water free. The major waste water sources are the result of crumb washing and dewatering, and plant washdown. The latter can produce large volumes of waste water contaminated with dissolved organics, floating organics, oils, and suspended solids. The total raw waste water load tends to be lower than for emulsion polymerization processes, since the reaction vessels are cleaned with recycled organic solvents rather than water. Because of the lower raw waste loads, solution crumb rubber plants are separately subcategorized.

(5) Subpart E—Latex Rubber Subcategory: Latex rubber production follows the same processing steps as emulsion crumb rubber production with the exception of the coagulation, crumb rinsing, and dewatering steps. Unlike crumb rubber production, short production runs of various formulations are common in the industry. The major waste waters result from frequent reaction vessel cleaning as production is switched from one production run to another. To maintain product purity the equipment used to store and filter the latex emulsions also require frequent cleaning as production products change. In addition, tank cars and tank trucks used by the plant require cleaning after each use. Area washdowns are frequent both within the process buildings and at the vehicle loading and unloading areas. On a production basis a latex plant has the highest raw waste load consisting of high quantities of uncoagulated latex, dissolved and separable organics, and suspended and dissolved solids. Because of the nature and quantities of the waste water, latex rubber production is separately subcategorized.

(ii) Waste Characteristics.

The pollutants contained in raw waste waters resulting from the rubber processing category include biodegradable organic compounds such as monomers, soaps and latex rubber. Additional pollutants include those nonbiodegradable organic compounds such as styrene and other cyclic organic compounds, suspended solids, dissolved solids, oil and grease, acids and bases, surfactants, color, waste heat, and light and heavy metal ions.

Significant quantities of suspended solids and oil and grease are present in the process waste waters of the tire and inner tube subcategories. Both suspended solids and oil and grease are present in the process waste waters of the three synthetic rubber production subcategories as well as those constituents (organic compounds surfactants, etc.) which cause a biochemical oxygen demand, BOD5 and a chemical oxygen demand, COD. Raw waste load data have been collected on these streams for each subcategory of the industry, and information assembled on the treatment procedures required for each waste water stream.

(iii) Origin of waste water pollutants in the rubber processing category.

(1) Tire and inner tube plants subcategories: Of the pollutants identified, most are present in insignificant amounts or are attributed to nonprocess waste water discharges: cooling, utilities, and domestic wastes. The primary sources of pollutants are process waste waters that come into contact with the tire and inner tube production materials within the manufacturing plants or from storm water runoff from raw materials storage areas.

(2) Synthetic rubber subcategories: The major waste water attributed to these subcategories results from reaction vessel cleaning in the emulsion processes, crumb washing and dewatering, and plant washdown.

(iv) Treatment and control technology.

In-plant controls to prevent process waste waters from entering a combined nonprocess waste water discharge are necessary for tire and inner tube plants. Process waste waters should be isolated from the nonprocess waste waters and treated separately. The recommended end-of-pipe treatment entails the use of oil-water separators followed by fine filters to remove oil and grease and suspended solids.

In-plant control and end-of-pipe treatment in the synthetic rubber production plants consist of the addition of dual crumb pits prior to primary treatment to separate the bulk of the crumb rubber fines. End-of-pipe treatment includes chemical coagulation and biological treatment. The total plant effluent may be passed through an aerated equalization basin to smooth out waste load peaks and to equalize hydraulic flow.

Air pollution control in tire and inner tube plants does not cause major waste water problems. In the compounding area of tire and inner tube plants bagfilters, rather than wet scrubbers, are most frequently used. Wet systems are more common in the tire-finishing area (to collect the grindings from the white sidewall grinding machines and balancing machines) and the tire-repair area.

Solid waste control. The solid wastes from tire and inner tube and synthetic rubber production include: the oil and solids from the end-of-pipe treatment systems in tire and inner tube plants and the solid wastes produced by chemical coagulation and clarification, wasted biological sludge, and spent activated carbon from the end-of-pipe treatment systems in synthetic rubber plants. These solid wastes are either removed from the plantsite by a waste removal contractor or hauled to an approved land disposal site.

(v) Treatment and control technology within subcategories.

Waste water treatment and control technologies have been studied for each subcategory of the industry to determine what is (i) the best practicable control technology currently available, (ii) the best available technology economically achievable, and (iii) the best available demonstrated control technology processes, operating methods or other alternatives.

(1) Treatment in the older tire and inner tube plant subcategory: Best practicable control technology currently available consists of in-plant controls to isolate the drippings of soapstone and latex dip solution, oil drippings from machinery, and oil contaminated water from the molding and curing area as well as the isolation of raw materials storage area to prevent rain water intrusion. Process waste waters should be isolated from nonprocess waste water and treated to remove oil and grease and suspended soils.

The requirements for the best available technology economically achievable and for the best available demonstrated control technology, processes, operating methods, or other alternatives for new sources are the same as the requirements for the best practicable control technology currently available.

(2) Treatment in the newer tire and inner tube plants subcategory: Best practicable control technology currently available consists of in-plant controls to isolate the drippings of soapstone and

latex dip solutions, oil drippings from machinery, and oil contaminated water from the molding and curing area as well as the isolation of raw materials storage areas to prevent rain water intrusion. Process waste waters should be isolated from nonprocess waste water and treated to remove oil and grease and suspended solids.

(3) Treatment in the emulsion crumb rubber category: To meet the standards based on the best practicable control technology currently available, the coagulation liquor and crumb rinse overflow stream should be passed through crumb pits to remove crumb rubber fines. These pits should be dual units so that good crumb separation can be achieved during pit unit cleaning operations. The stream should then be sent to the treatment system which includes chemical coagulation and clarification, and biological treatment. The total plant effluent should be passed through an equalization basin, providing approximately 24 hours detention, to smooth out waste load peaks and to equalize hydraulic flow. The equalization basin should be aerated to insure good mixing, prevent anaerobic conditions, and assist in the biological oxidation removal process.

Best available technology economically achievable is the use of activated carbon treatment of the secondary treatment system effluent to remove those substances which contribute to the chemical oxygen demand. The activated carbon system should be preceded by a dual media filter to remove particulates which might foul the carbon system.

Treatment and control technologies for new sources are the same as for the best practicable control technology currently available.

(4) Treatment in the solution crumb subcategory: To meet the standards based on best practicable control technology currently available, the plant waste waters are first passed through crumb pits to remove rubber crumb fines. As previously noted in the discussion of the emulsion crumb subcategory, these pits should be dual units.

Secondary treatment as described for the emulsion crumb rubber subcategory is applicable to solution crumb rubber waste waters. Since solution crumb waste waters do not contain uncoagulated latex solids, and if adequate separation of the rubber fines has been achieved in the crumb pits, neither the chemical coagulation process nor the primary clarifier is required.

Best available technology economically achievable is the use of activated carbon treatment of the secondary treatment system effluent to remove those substances which contribute to the chemical oxygen demand. The activated carbon system should be preceded by a dual media filter to remove particulates which might foul the carbon system.

Treatment and control technologies for new sources are the same as for the best practicable control technology currently available.

(5) Treatment in the latex rubber subcategory: To meet the standards based on the best practicable control technology currently available the emulsion crumb rubber waste water treatment facility described above is also applicable at latex rubber plants. Since latex plant waste waters contain uncoagulated latex solids, primary clarification assisted by chemical coagulation is required. However, because latex plants are considerably smaller than emulsion crumb plants, the waste water flow rate is much lower. The lower flow rates indicate that the use of small reactor-clarifiers is not practicable in small diameters due to reduction in efficiency, mixing, and settlement of solids.

Other than this basic difference (due to flow rate only) in the design of the primary clarification equipment, the secondary treatment facility for latex plant waste waters is identical to that described for emulsion crumb waste water.

Best available technology economically achievable is the use of activated carbon treatment of the secondary treatment system effluent to remove those substances which contribute to the chemical oxygen demand. The activated carbon system should be preceded by a dual media filter to remove particulates which might foul the carbon system.

Treatment and control technologies for new sources are the same as for the best practicable control technology currently available.

(vi) Cost esimates for control of waste water pollutants in the rubber processing category: Cost estimates follow for processes that can achieve the various levels of treatment required for each of the five subcategories.

(1) Older tire and inner tube plants subcategory: To meet the standards set forth for this subcategory, an estimated 0.8 percent would be added to the price of the products produced in older tire and inner tube plants. This price increase takes into account the additional cost of synthetic rubber due an increased water pollution control cost.

(2) Newer tire and inner tube plants subcategory: To meet the standards set forth for this subcategory, an estimated 0.6 percent would be added to the price of products produced in newer tire and inner tube plants. The price increase takes into account the additional cost of synthetic rubber due to increased water pollution costs.

(3) Emulsion crumb rubber subcategory: To meet the standards set forth for best practicable control technology currently available and for news sources, the estimated price increase in emulsion crumb rubber is 1.0 to 1.5 percent. An additional price increase to meet standards for best available technology economically achievable is estimated to be 1.0 to 1.5 percent.

(4) Solution crumb rubber subcategory: To meet the standards set forth for best practicable control technology currently available and for new sources, the estimated price increase of solution crumb rubber is less than 0.5 percent. An additional price increase to meet standards for best available technology economically achievable is estimated to be 0.5 to 1.1 percent.

(5) Latex rubber subcategory: To meet the standards set forth for best practicable control technology currently available and for new sources, the estimated price increase of latex rubber is less than 3.5 percent. An additional price increase to meet standards for best available technology economically achieveable is estimated to be less than 3.5 percent.

(vii) Establishing daily maximum limitations: The daily maximum limitation of one and one-half times the 30 day limitation for BOD5, COD total suspended solids and oil and grease in all subcategories of the rubber processing category is based on statistical studies of waste generation at existing rubber industry plants and plants outside the industry using similar treatment systems with similar type wastes.

(viii) The nonwater quality aspects of pollution control have been considered. In tire and inner tube plants the primary nonwater quality aspects deriving from treatment is the need for disposal of oil and solids from the separators. Additional solid waste results from the use of a non-regenerative type absorbent filter. The additional solid wastes generated as the result of the proposed technology, however, is very small relative to the normal solid waste loads generated by tire and inner tube plants.

In the emulsion crumb-treatment system sludge cake is produced by vacuum filtration of the primary coagulation solids and the digested biological solids. Sludge disposal costs were based on sanitary landfill. Sludge incineration costs were not evaluated because the economics depend, to a large degree, on the accessibility of a landfill site and on the relative costs for sludge haulage and site disposal. The annual quantities of solid waste generated are:

Primary coagulated solids.	2,940 cu m (3,900 cu yd).
Biological solids	245 cu m (325 cu yd).

Solid waste generation with a solution crumb treatment system is associated with biological solids and spent activated carbon. The activated carbon canisters may be returned for regeneration off-site by the supplier. However, annual operating data have been based on disposal of the spent carbon at a landfill site. The annual quantities of solid waste generated are:

Biological solids	102 cu m (135 cu yd).
Spent carbon	140 cu m (185 cu yd).

In latex crumb rubber treatment systems solid wastes are produced by chemical coagulation and clarification, wasted biological sludge, and spent activated carbon. For cost purposes, it is proposed that these all be hauled to a landfill. The annual quantities of solid wastes are listed below:

Primary coagulated solids.	214 cu m (283 cu yd).
Biological solids	62 cu m (82 cu yd).
Spent carbon	126 cu m (167 cu yd).

These solid wastes are not hazardous and have been used for soil conditioning purposes and landfill. They require minimal custodial care rather than special disposal considerations which must be given to hazardous materials.

Neither air quality nor noise levels will be adversely affected by any of the proposed treatment technologies.

(ix) Economic impact analysis.

In assessing the economic impact, internal and external costs are considered. Internal costs are given as investment and annual cost for a typical plant. Annual cost is operating costs plus the cost of capital and depreciation. The annual cost per tire or inner tube is under ten cents. For the synthetic rubber segment, costs to meet the 1977 standards range from $6.64 to $25.10/ton, and costs to meet the 1983 standards range from $10.34 to $35.50/ton. (These costs are for a typical plant with no treatment facilities currently in place.) The required investment and annual costs for the 1977, 1983 and New Source Standards appear to pose no major problems for the industry.

External cost deals basically with the assessment of economic impact of the internal costs discussed above in terms of price increases, production curtailments or plant closures, resultant employment, community and regional impacts, international trade, and future industry growth. The proposed effluent limitations will not seriously threaten the economic viability of the industry. The proposed limitations will have a minor effect on prices with the probable price effect on tires and inner tubes being less than 0.8 percent. For the synthetic rubbers, the probable price effect is less than 1 percent except for SBR latex where the price effect may be as high as 3.5 percent. In addition, there will be no effect on production, employment, the balance of trade, and industry growth due to the imposition of the proposed effluent limitations.

The report entitled "Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for the TIRE AND SYNTHETIC Segments of the Rubber Processing Point Source Category" details the analysis undertaken in support of the regulations being proposed herein and is available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and at State water pollution control offices. A supplementary analysis prepared for EPA of the possible economic effects of the proposed regulations is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulations, or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman.

(c) Summary of public participation.

Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations guidelines and standards proposed for the rubber processing category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) all State and U.S. Territory Pollution Control Agencies; (3) New England Interstate Water Pollution Control Commission; (4) Ohio River Valley Sanitation Commission; (5) Delaware River Basin Commission; (6) The American Society of Mechanical Engineers; (7) The American Society of Civil Engineers; (8) Hudson River Sloop Restoration, Inc.; (9) The Conservation Foundation, Environmental Defense Fund, Inc.; (10) Natural Resources Defense Council; (11) Water Pollution Control Federation; (12) The Natural Wildlife Federation; (13) Department of Commerce; (14) Department of the Interior; (15) Water Resources Council; (16) Manufacturing Chemists Association; (17) Rubber Manufacturers Association; (18) Synthetic Organic Chemical Manufacturing Association; and (19) International Institute of Synthetic Rubber Producers.

The following organizations responded with comments: The B. F. Goodrich Company; Ball Corporation; The Armstrong Rubber Company; The Firestone Tire and Rubber Company; Uniroyal, Inc.; The Gates Rubber Company; The Goodyear Tire and Rubber Company; E. I. du Pont de Nemours and Company; Rubber Manufacturers Association; Effluent Standards and Water Quality Information Advisory Committee; California Water Resources Control Board; New York State Department of Environmental Conservation; State of Pennsylvania, Division of Industrial Wastes; U.S. Department of the Interior; General Counsel of the Department of Commerce; Commonwealth of Kentucky; State of Colorado, Department of Health; Illinois Environmental Protection Agency; and Texas Water Quality Control Board.

The comments were highly variable, ranging from full support to overall opposition.

The primary issues raised in the development of the proposed effluent limitations guidelines and standards of performance and the treatment of these issues herein are as follows:

(1) The most frequent comment concerned the availability by 1983 of activated carbon systems for the reduction of chemical oxygen demand from synthetic rubber secondary waste treatment system effluents. As noted in the Development Document, one synthetic rubber plant has attempted to use activiated carbon to reduce chemical oxygen demand from a secondary synthetic waste water effluent. Subsequent tests by the Agency on seven different typical waste samples (referenced in the Development Document) from plants representing each of the synthetic rubber subcategories indicate that activated carbon for the reduction of chemical oxygen demand is technically feasible. The cost to treat one million gallons of waste water per day is estimated to be $369. It was concluded, after consideration of the data from EPA testing and economic analysis, that biological treatment followed by activated carbon treatment for removal of pollutants is the best available technology economically achievable.

(2) A number of comments expressed concern that nonprocess waste water was to be included as part of the process waste water stream. To clarify this issue the Development Document has been revised to clearly delineate the waste streams associated with processing. Effluent limitations guidelines and standards to be applied to process waste water pollutants are clearly defined in this regulation.

(3) Several organizations suggested that pH should be included as a parameter subject to limitations. The Agency has revised the limitations to include a pH limitation of 6.0 to 9.0 for all subcategories.

(4) A number of organizations commented on the limitation values given in the Development Document; most were concerned with whether or not the values are daily maximums or monthly averages. The effluent limitations set forth in two regulations clearly indicate the period of applicability of the standard.

(5) A number of commentors expressed the opinion that inadequate cost information had been gathered and that these studies were not applied to plants with the full range of treatment problems. The Agency has reexamined the cost data and economic impacts and finds that these data substantiate the reasonableness of the proposed regulation.

(6) One state environmental protection agency expressed concern that the limitations for BOD5 and suspended solids are higher than those allowed by the State for discharge to low flow streams. The limitations values presented in the Development Document represent the best practicable technology currently available. However, under the Act, dischargers must also comply with any more stringent limitation required to meet water qaulity standards, or other requirements of either Federal or State law.

(7) Many comments referred to cooling water, boiler blowdown waste water problems, and water supply waste water problems. These are to be dealt with later as a separate category. Any cooling water that picks up process related pollutants from leaks or otherwise becomes process waste water. It is the responsibility of the plant to monitor cooling water

streams for leaks, and to treat contaminated cooling water to the standards established for process waste water discharges.

Interested persons may participate in this rulemaking by submitting written comments in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman. Comments on all aspects of the proposed regulations are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which is available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data is essential to the development of the regulations. In the event comments address the approach taken by the agency in establishing an effluent limitation guideline or standard of performance, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 301, 304(b), 306, and 307 of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street, SW, Washington D.C. A copy of preliminary draft contractor reports, the Development Document and economic study referred to above and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received by November 11, 1973 will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Dated October 1, 1973.

RUSSELL E. TRAIN,
Administrator.

PART 428—EFFLUENT LIMITATIONS GUIDELINES FOR EXISTING SOURCES AND STANDARDS OF PERFORMANCE AND PRETREATMENT STANDARDS FOR NEW SOURCES FOR THE RUBBER MANUFACTURING POINT SOURCE CATEGORY

Sec.

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Subpart E—Latex Rubber Subcategory

428.50 Applicability; description of latex rubber subcategory.
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428.53 Effluent limitations guidelines representing the degree of effluent reduction obtainable by the application of the best available technology economically achievable.
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Subpart A—Older Tire and Inner Tube Plants Subcategory

§ 428.10 Applicability; description of older tire and inner tube plants subcategory.

The provisions of this subpart are applicable to the discharges resulting from the production of pneumatic tires and inner tubes in older tire and inner tube plants. For the purposes of this regulation older tire and inner tube plants are defined as those facilities constructed before 1959.

§ 428.11 Specialized definitions.

For the purpose of ths subpart:

(a) The term "process waste water" shall mean any water which comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the manufacture of tires and inner tubes.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste water.

(c) The term "oil and grease" shall mean those components of a waste water amendable to measurement by the method described in *Methods for Chemical Analysis of water and Wastes*, 1971, Environmental Protection Agency Analytical Quality Control Laboratory, page 217.

(d) The following abbreviations shall have the following meaning when used in this subpart: (i) "TSS" shall mean total suspended nonfilterable solids; (ii) "kg" shall mean kilogram(s); (iii) "kkg" shall mean 1000 kilograms and (iv) lb shall mean pound(s).

(e) The term "raw material" shall mean all natural and synthetic rubber, carbon black, oils, chemical compounds, fabric and wire used in the manufacture of pneumatic tires and inner tubes or components thereof.

§ 428.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristics	*Effluent limitation*
TSS	Maximum for any one day 0.096 kg/kkg of raw material (0.096 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.064 kg/kkg of raw material (0.064 lb/1,000 lb).
Oil and grease.	Maximum for any one day 0.024 kg/kkg of raw material (0.024 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.016 kg/kkg of raw material (0.016 lb/1,000 lb).
pH	Within the range of 6.0 to 9.0.

§ 428.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be dis-

charged after application of the best available technology economically achievable by a point source subject to the provsisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 0.096 kg/kkg of raw material (0.096 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.064 kg/kkg of raw material (0.064 lb/1,000 lb).
Oil and grease.	Maximum for any one day 0.024 kg/kkg of raw material (0.024 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.016 kg/kkg of raw material (0.016 lb/1,000 lb).
pH	within the range of 6.0 to 9.0.

§ 428.14 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be dicharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 0.096 kg/kkg of raw material (0.096 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.064 kg/kkg of raw material (0.064 lb/1,000 lb).
Oil and Grease.	Maximum for any one day 0.024 kg/kkg of raw material (0.024 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.016 kg/kkg of raw material (0.016 lb/1,000 lb).
pH	within the range of 6.0 to 9.0.

§ 428.15 Pretreatment standards for new sources.

The pretreatment standards under sections 307(c) of the Act, for a source within the older tire and inner tube plants subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purposes of this section, § 128.133 shall be amended to read as follows: "In addition to the prohibitions set forth in section 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 428.14 of this title, provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart B—Newer Tire and Inner Tube Plants Subcategory

§ 428.20 Applicability; description of newer tire and inner tube plants subcategory.

The provisions of this subpart are applicable to the discharges resulting from the production of pneumatic tires and inner tubes in newer tire and inner tube plants. For the purposes of this regulation newer tire and inner tube plants are defined as those facilities constructed after 1958.

§ 428.21 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the manufacture of pneumatic tires and inner tubes.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste water.

(c) The term "oil and grease" shall means those components of a waste water amendable to measurement by the method described in *Methods for Chemical Analysis of Water and Wastes*, 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(d) The following abbreviations shall have the following meaning when used in this subpart: (i) "TSS" shall mean total suspended nonfilterable solids; (ii) "kg" shall mean kilogram(s); (iii) "kkg" shall mean 1000 kilograms and (iv) lb shall mean pound(s).

(e) The term "raw material" shall mean all natural and synthetic rubber, carbon black, oils, chemical compounds, fabric and wire used in the manufacture of pneumatic tires and inner tubes or components thereof.

§ 428.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 0.096 kg/kkg of raw material (0.096 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.064 kg/kkg of raw material (0.064 lb/1,000 lb).
Oil and grease.	Maximum for any one day 0.024 kg/kkg of raw material (0.024 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.016 kg/kkg of raw material (0.016 lb/1,000 lb).
pH	Within the range of 6.0 to 9.0.

§ 428.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 0.096 kg/kkg of raw material (0.096 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.064 kg/kkg of product (0.064 lb/1,000 lb).
Oil and grease.	Maximum for any one day 0.024 kg/kkg of raw material (0.024 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.016 kg/kkg of raw material (0.016 lb/1,000 lb).
pH	within the range of 6.0 to 9.0.

§ 428.24 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
TSS	Maximum for any one day 0.096 kg/kkg of raw material (0.096 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.064 kg/kkg of raw material (0.064 lb/1,000 lb).
Oil and grease.	Maximum for any one day 0.024 kg/kkg of product (0.024 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.016 kg/kkg of raw material (0.016 lb/1,000 lb).
pH	within the range of 6.0 to 9.0.

§ 428.25 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source

within the newer tire and inner tube plants subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title except that for the purposes of this section, § 128.133, shall be amended to read as follows: "In addition to the prohibitions set forth in section 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 428.24 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart C—Emulsion Crumb Rubber Subcategory

§ 428.30 Applicability; description of emulsion crumb rubber subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of emulsion crumb rubber.

§ 428.31 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the manufacture of emulsion crumb rubber.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste water.

(c) The term "BOD5" shall mean five day biochemical oxygen demand.

(d) The term "COD" shall mean chemical oxygen demand.

(e) The term "oil and grease" shall mean those components of a waste water amenable to measurement by the method described in *Methods for Chemical Analysis of Water and Wastes*, 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(f) The following abbreviations shall have the following meaning when used in this subpart: (i) "TSS" shall mean total suspended nonfilterable solids; (ii) "kg" shall mean kilogram(s); (iii) "kkg" shall mean 1,000 kilograms and (iv) "lb" shall mean pound(s).

§ 428.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
COD	Maximum for any one day 12.00 kg/kkg of product (12.00 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 8.00 kg/kkg of product (8.00 lb/1,000 lb).
BOD5	Maximum for any one day 0.60 kg/kkg of product (0.60 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.40 kg/kkg of product (0.40 lb/1,000 lb).
TSS	Maximum for any one day 0.98 kg/kkg of product (0.98 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.65 kg/kkg of product (0.65 lb/1,000 lb).
Oil and grease.	Maximum for any one day 0.24 kg/kkg of product (0.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.16 kg/kkg of product (0.16 lb/1,000 lb).
pH	Within the range of 6.0 to 9.0.

§ 428.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this Subpart:

Effluent characteristic	*Effluent limitation*
COD	Maximum for any one day 3.12 kg/kkg of product (3.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.08 kg/kkg of product (2.08 lb/1,000 lb).
BOD5	Maximum for any one day 0.12 kg/kkg of product (0.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.08 kg/kkg of product (0.08 lb/1,000 lb).
TSS	Maximum for any one day 0.24 kg/kkg of product (0.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.16 kg/kkg of product (0.16 lb/1,000 lb).
Oil and grease.	Maximum for any one day 0.12 kg/kkg of product (0.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.08 kg/kkg of product (0.08 lb/1,000 lb).
pH	Within the range of 6.0 to 9.0.

§ 428.34 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart; the limitations shall be as specified in § 428.32.

§ 428.35 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the rubber processing category emulsion crumb rubber subcategory which is an industrial user of a publicly owned treatment works, and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purpose of this section, § 128.133 of this title shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 428.34 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed in its NPDES permit, to remove a specified percentage of any incompatible pollutant the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart D—Solution Crumb Rubber Subcategory

§ 428.40 Applicability; description of solution crumb rubber subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of solution crumb rubber.

§ 428.41 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the manufacture of solution crumb rubber.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste water.

(c) The term "BOD5" shall mean five day biochemical oxygen demand.

(d) The term "COD" shall mean chemical oxygen demand.

(e) The term "oil and grease" shall mean those components of waste water amenable to measurement by the method described in *Methods for Chemical Analysis of Water and Wastes*, 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(f) The following abbreviations shall have the following meaning when used in this subpart: (i) "TSS" shall mean total suspended nonfilterable solids; (ii)

"kg" shall mean kilogram(s); (iii) "kkg" shall mean 1000 kilograms and (iv) lb shall mean pound(s).

§ 428.42 Effluent limitations guidelines representing the degree of effluent reduction obtainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
COD	Maximum for any one day 5.91 kg/kkg of product (5.91 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 3.94 kg/kkg of product (3.94 lb/1,000 lb).
BOD5	Maximum for any one day 0.60 kg/kkg of product (0.60 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.40 kg/kkg of product (0.40 lb/1,000 lb).
TSS	Maximum for any one day 0.98 kg/kkg of product (0.98 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.65 kg/kkg of product (0.65 lb/1,000 lb).
Oil and grease.	Maximum for any one day 0.24 kg/kkg of product (0.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.16 kg/kkg of product (0.16 lb/1,000 lb).
pH	Within the range of 6.0 to 9.0.

§ 428.43 Effluent limitations guidelines representing the degree of effluent reduction obtainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
COD	Maximum for any one day 3.12 kg/kkg of product (3.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 2.08 kg/kkg of product (2.08 lb/1,000 lb).
BOD5	Maximum for any one day 0.12 kg/kkg of product (0.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.08 kg/kkg of product (0.08 lb/1,000 lb).
TSS	Maximum for any one day 0.24 kg/kkg of product (0.24 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.16 kg/kkg of product (0.16 lb/1,000 lb).
Oil and Grease.	Maximum for any one day 0.12 kg/kkg of product (0.12 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.08 kg/kkg of product (0.08 lb/1,000 lb).
pH	Within the range of 6.0 to 9.0.

§ 428.44 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart; the limitations shall be as specified in § 428.42.

§ 428.45 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the rubber processing category solution crumb rubber subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purpose of this section, § 128.133, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a performance for new sources specified in § 428.44 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart E—Latex Rubber Subcategory

§ 428.50 Applicability; description of latex rubber subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of latex rubber.

§ 428.51 Specialized definitions.

For the purpose of this subpart:

(a) The term "process waste water" shall mean any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product or product used in or resulting from the manufacture of latex rubber and any nonprocess water discharged to the process waste treatment system.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste water.

(c) The term "BOD5" shall mean five day biochemical oxygen demand.

(d) The term "COD" shall mean chemical oxygen demand.

(e) The term "oil and grease" shall mean those components of waste water amenable to measurement by the method described in *Methods for Chemical Analysis of Water and Wastes*, 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(f) The following abbreviations shall have the following meaning when used in this subpart: (i) "TSS" shall mean total suspended nonfilterable solids; (ii) "kg" shall mean kilogram(s); (iii) "kkg" shall mean 1,000 kilograms and (iv) "lb" shall mean pound(s).

§ 428.52 Effluent limitations guidelines representing the degree of effluent reduction obtainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
COD	Maximum for any one day 10.27 kg/kkg of product (10.27 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 6.85 kg/kkg of product (6.85 lb/1,000 lb).
BOD5	Maximum for any one day 0.51 kg/kkg of product (0.51 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.34 kg/kkg of product (0.34 lb/1,000 lb).
TSS	Maximum for any one day 0.82 kg/kkg of product (0.82 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.55 kg/kkg of product (0.55 lb/1,000 lb).
Oil and Grease	Maximum for any one day 0.21 kg/kkg of product (0.21 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.14 kg/kkg of product (0.14 lb/1,000 lb).
pH	within the range of 6.0 to 9.0.

§ 428.54 Effluent limitations guidelines representing the degree of effluent reduction obtainable by application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or

pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
COD	Maximum for any one day 2.66 kg/kkg of product (2.66 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 1.78 kg/kkg of product (1.78 lb/1,000 lb).
BOD5	Maximum for any one day 0.11 kg/kkg of product (0.11 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.07 kg/kkg of product (0.07 lb/1,000 lb).
TSS	Maximum for any one day 0.21 kg/kkg of product (0.21 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.14 kg/kkg of product (0.14 lb/1,000 lb).
Oil and grease.	Maximum for any one day 0.11 kg/kkg of product (0.11 lb/1,000 lb). Maximum average of daily values for any period of thirty consecutive days 0.07 kg/kkg of product (0.07 lb/1,000 lb).
pH	Within the range of 6.0 to 9.0.

§ 428.54 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this Subpart: the limitations shall be as specified for § 428.42.

§ 428.55 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the rubber processing category latex rubber subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this title, except that for the purpose of this section, § 128.133 shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 428.54 of this title; provided that, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

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